

A COMPARATIVE STUDY OF SOME OF
THE LEADING MUSIC, SYSTEMS OF THE
15TH, 16TH, 17TH & 18TH CENTURIES.

by
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B A, LL B

FOREWORD

These short commentaries of the Sangeet Granthas of the past ages form a very valuable contribution to the music literature of modern times. In these the author has left behind a smooth path for a student of the past history of our music through the labyrinth of the ever changing system of Rag-Raginis. Indeed, had it not been for the late learned Prof. Bhatkhande's persistent application to the study of the old literature on the subject with a definite aim at solving the diverse and therefore mysterious and baffling methods of explanation of a common topic with which it is filled perhaps the history of our music of the past centuries would have remained oblivious to us today. Ever since the time of the Sangeet Ratnakar our music had been going through a process of reformation as it were. The old system of Grama-Moorchhana-Jati was abandoned and gave place to the Raga-Ragini or the Janya-Janak (Thata-Raga) theory. In Northern India the Mahomedan rulers proved to be great patrons of music and dancing. They brought with them their own music which, as it always happens in this country, was assimilated into the then Hindu music. New melodies, new styles of interpretation, new types of songs, new Talas were introduced. Thus today we have got what we know as Hindustani music which is a beautiful monument of the fusion of Hindu and Islamic Culture.

In the midst of this reformation a few Granthas expounding the system of music in vogue in their respective times were written. Two of these, Ahobala's Sangeet Parijat and Somnatha's Ragavibodh had already been published when Prof. Bhatkhande took up the study of the Granthas. This does not however mean that they were understood by anybody. In their anxiety to link up the ancient system of music with that current in their own days the authors of these Granthas have rendered themselves difficult to understand. E. G. Somnath explains his music scale in terms of Shrutis as the ancients did. As to what was his exact interval of the Shruti he is mum. He bases his theory on a chromatic scale which is current today in the south as Mukhari and describes his flats and sharps with reference to this scale. In the north even perhaps at Somnatha's time a diatonic scale had already been adopted as the standard scale. Ragavibodh was therefore difficult for the northerners to understand. Similarly Ahobala dutifully accepts the Shrutis and Moorchhanas of the ancients and describes them in elaborate details in the Swaradhyaya. When however he comes to the Ragadhyaya he quietly selects from the Swaradhyaya whatever had a practical bearing on the music current in his time and throws the rest of the bundle overboard.

Even the facts that Somnatha's standard scale was like the Mukhari scale of the Karnatak system of music and that Ahobala's standard scale was like the Kaphi of the Hindustani system of music were hardly discovered before Professor Bhatkhande's commentaries on these Granthas, namely Raga-vibodha-Praveshika and Parijata-Praveshika came out. At least there is no record to prove it.

Under such circumstances it was but natural that the literature of our music of the past should have remained unattended to so long.

These articles deal with over a dozen Granthas and give enough information which makes it quite easy to understand them. Some portion of this book has already appeared in print in "Sangeeta" the Journal of the Morris College of Hindustani Music, Lucknow. But unfortunately the journal having ceased to appear after the fifth issue the rest of this book remained unpublished until the late Mr. Bhalchandra Sitaram Sukthankar the editor and publisher of the Kramik Pustak Malika thought of bringing the whole series out into a book form. This volume was half way through the press when unfortunately Mr. Sukthankar fell ill and died in April 1940. The printing was taken up again a few months ago. Coming, as it is, from the pen of the foremost authority on the subject, it need hardly be added that this book will prove a very interesting and enlightening study.

S. N. Ratanjankar

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But how are we going to systematise it? What systems are we going to adopt? We know that our music in the past was highly systematised and that the system adopted was the best for its needs. I would even go further and say that the system adopted by some of our old Shashtra writers would be found suitable even for the classification or systematisation of our own music. The putting on a different suit of clothes does not change the individual clothed, and similarly, though there may be, and are changes in the music as it is now, from what it was then, there is no such fundamental alteration in it as to make the modern music an essentially different thing. It is, therefore, necessary, in my opinion, to consider the system or systems adopted by our old Shashtra-writers in order to construct a good workable system for our present music. Though the external appearance of our music has to some extent changed, yet, the frame work, to my mind, appears the same. This is apart from the pride one feels for what is one's patrimony. Then again by studying the ancient texts, we can also restore some of the Ragas, which were formerly popular, but have ceased to be in vogue and can correct the method of singing some melodies which are at present incorrectly sung. The principal changes which have taken place, are either as regards the names of the Ragas, or the notes used in them, or as to the Thatas to which they are to be assigned; or perhaps some of the ancient graces and "Gamaks" have lost their ancient forms and so forth but in the main the substratum of our music is undoubtedly the music of the past, and that being so, a study of the past music, in my opinion, is essential. All art, as we know from experience, is progressive, and the Music of today will be the music of the past in a few years more. But the study of any art is incomplete without the study of the progress which it has made, which again is of material assistance in the study of the art as it exists. It is rightly observed that in order that a body of artists who represent any particular art should really be proficient in it, they must be well-versed in the fundamental principles of it. In the present moment, unfortunately, most of our professional artists are not learned in the science of music and the theorists are not well-versed in the art. I am only speaking of my part of the country. This state, however, is happily passing away, and the Indian nation is now taking a great interest in the subject. It is to be expected that at no distant future we shall have people who combine in themselves both the art and the science of Music and then the progress we make will be both rapid and stable.

Having so far tried to show the importance of the study of the ancient sanskrit books, I shall now come to the second question, namely, the subject matter of the study. Before taking up the consideration of this question, I may here point out that the Sanskrit works I have selected for consideration almost all belong to the period when the

country was under the influence of the Mohammedan rulers. The Granthas belong, as will appear, from the title of this series, to the 15th, 16th, 17th and 18th centuries

The number of treatises on Indian Music which are still extant will go over a hundred, and these lie scattered all over the country. Intending students will find a list of the works extant in the famous book on Indian Music by Captain Day, the reports of the Poona Gayan Samaj, and the catalogue of the Granths of the Bikaner library by the late Rajendralal Mitra. I have already mentioned in the first part of Hindustani Sangeeta Paddhati at pages 192-195, the names of the music works which I came across during my travels. The libraries of Bikaner, Mysore and Trivandrum contain the most valuable collections of Music books. I am informed that there is a decent collection of Music Manuscripts in the Nepal library too, but I have not been able yet to get access to it. Still we can get at nearly fifty to seventy-five treatises on music from libraries I have mentioned above. I mention hereunder the treatises which are available in each of the libraries above referred to.

In the Library of His Highness the Maharajah of Bikaner there is a large collection of Sanskrit works on Music. I give the names of some of them below:

- | | |
|--------------------|-----------------------|
| 1 संगीत सूत्र | 18 राग प्यान |
| 2 रत्नाकरटीका | 19 राग काव्यरत्न |
| —, —सि० भू० | |
| 3 स० राजात्मकोश | 20 सकोर्ण राग |
| 4 अनूप स. रत्नाकर | 21 गमक मञ्जरी |
| 5 स० अनूप विलास | 22 स० मकरद |
| 6 स० अनूपकुश | 23 सं. मृत्तावली |
| 7 संगीत विनोद | 24 नृत्याध्याय |
| 8 संगीत वर्तमान | 25 मुखादि चाली |
| 9 स० अनूपराग सागर | 26 रागमाला (पुष्परीक) |
| 10 संगीतोपदेश | 27 रागमञ्जरी—,, |
| 11 शृंगार हार | 28 नर्तन निर्णय—,, |
| 12 स्वामेल कलानिधि | 29 स० रा० चन्द्रोदय „ |
| 13 हृदय कौतुक | 30 संगीत शरीर |
| 14 हृदय प्रकाश | 31 स० सार नृत्याध्याय |
| 15 स० कल्पतरु | 32 स्वराध्याय भाषा |
| 16 राग विबोध | 33 पुराणप्रकाश |
| 17 रागमाला | 34 संगीत पारिजात |

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|-----------------------|---------------------|
| 35 सं० सार कलिका | 40 संगीत दर्पण |
| 36 सं० रागतत्त्वविबोध | 41 सं० आनंदजीवन |
| 37 हनुमन्तरागविमाषा | 42 सं० दर्पण-हिंदी |
| 38 सं० रामकौतुक | 43 रागमाला |
| 39 सं० उपनिषत्सार | 44 संकीर्णरागाध्याय |

45 रत्नाकर टीका (कहीनाथ)

The following Sanskrit works will be available in the Government Oriental Library, Mysore.

- | | |
|-----------------|---------------------|
| 1 अभिनयदर्पण | 8 संगीत मकरंद |
| 2 अभिनयमुकुट | 9 अभिनयप्रकरण |
| 3 अभिनवभरतसार | 10 रत्नाकरव्याख्या |
| 4 आदि भरत | 11 संगीत लक्षण |
| 5 संगीत दर्पण | 12 संगीतसमयसार |
| 6 भरतसार | 13 संगीतलक्षणदीपिका |
| 7 संगीत चूडामणि | 14 स्वरप्रस्तार |

15 स्वरमेलकलानिधि

The following Music granthas will be found in the Palace Library at Trivandrum.

- | | |
|------------------|--------------------|
| 1 अंगहारलक्षण | 8 रसार्णवसुधाकर |
| 2 नाट्यग्रंथ | 9 संगीत चिंतामणि |
| 3 नाट्यवेदविवृति | 10 „ चूडामणि |
| 4 नृत्यरत्नाकर | 11 संगीत सुधा |
| 5 बालरामभरत | 12 „ सुधाकर |
| 6 नाट्यवेद | 13 सप्तस्वरलक्षण |
| 7 मावप्रकाश | 14 स्वरतालादिलक्षण |

The following will be found in the Central Library at Baroda :

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|------------------|------------------|
| 1 संगीत रत्नावली | 3 स्वरमेलकलानिधि |
| 2 संगीत रसकौमुदी | 4 संगीत मकरंद |

I am informed there are some more lately acquired by the Baroda Government.

The following are the treatises available in the Library of His Highness the Maharaja of Kashi.

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|--------------------------|-------------------------|
| 1 संगीत रत्नाकर | 6 रागसारावली |
| 2 संगीत धुनंदन | 7 रत्नाकर टीका सि० भू० |
| 3 सं० रत्नाकर स्वराध्याय | 8 उक्ते गुण- (परीक्षा) |
| 4 संगीत सारावली | 9 नवमाते आमकी (परीक्षा) |
| 5 संगीत पारिजात | 10 नाददीपक |

The following are the Sanskrit works available in the Tanjore Palace Library:

- | | |
|-----------------------|-------------------------------|
| 1 संगीत साराधृत | 9 रागप्रस्ताव |
| 2 " प्रकाशवली | 10 तालदशप्रमाणदीपिका |
| 3 रागसत्नाकर | 11 राग लक्षण |
| 4 अभिनयदर्पण | 12 दलित कोहलीयम् |
| 5 अष्टोत्तरशतताललक्षण | 13 संगीत मकरद |
| 6 तालप्रस्ताव | 14 चत्वारिंशच्छत राग निरूपणम् |
| 7 ताल लक्षण | 15 संगीत दर्पण |
| 8 ताल दीपिका | 16 सं० रत्नाकर |

The Government Oriental Library at Madras has the following

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|-----------------|-------------------|
| 1 वृत्ताल पुराण | 5 संगीत सात्मप्रद |
| 2 राग विशेष | 6 स्वरमेलकलानिधि |
| 3 संगीत दर्पण | 7 संगीताम्पाय |
| 4 " रत्नाकर | 8 कोइलरहस्य |

The following works are supposed to have been acquired for the Royal Asiatic Library at Calcutta, by Mahamahopadhyaya Harprasad Shastri:

- | | |
|------------------|--------------------|
| 1 रागविबोध | 8 आनन्दजीवन |
| 2 गीतर्वेद | 9 सोमेश्वरमत |
| 3 रागपुष्पकमणि | 10 गीतयिरीसङ्गान्य |
| 4 संगीतसंग्रह | 11 संगीत रसकौमुदी |
| 5 संगीतविधानिदान | 12 संगीतसार |
| 6 संगीतकल्पलता | 13 गीतसार |
| 7 संगीत रघुनन्दन | 14 भारतगानशास्त्र |
| | 15 सामप्रकाश |

Having so far given a list of the works which are extant on the subject, and having also stated where they are available, I shall now mention the titles of such of them as have been already printed and published

- | | |
|---------------------|------------------|
| 1 संगीत रत्नाकर | 7 संगीत मकरद |
| 2 भारतनाट्य शास्त्र | 8 सद्भागवतप्रोदय |
| 3 स्वरमेलकलानिधि | 9 रागतरंगिणी |
| 4 रागविबोध | 10 संगीत पारिजात |
| 5 चतुर्दशिकाशिका | 11 हृदयकौतुक |
| 6 संगीत साराधृत | 12 हृदयप्रकाश |

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|-----------------------|---------------------|
| 35 सं० सार कलिका | 40 संगीत दर्पण |
| 36 सं० रागतत्त्वविबोध | 41 सं० आनंदजीवन |
| 37 हनुमन्तगगविमाया | 42 सं० दर्पण-हिंदी |
| 38 सं० रामकौतुक | 43 रागमाला |
| 39 सं० उपनिषत्सार | 44 संकीर्णरागाध्याय |

45 रत्नाकर टीका (कल्याण)

The following Sanskrit works will be available in the Government Oriental Library, Mysore.

- | | |
|------------------|---------------------|
| 1 अभिनयदर्पण | 8 संगीत मकरंद |
| 2 अभिनयप्रकृत | 9 अभिनयप्रकरण |
| 3 अभिनवमरतसार | 10 रत्नाकरव्याख्या |
| 4 आदि मरत | 11 संगीत लक्षण |
| 5 संगीत दर्पण | 12 संगीतसमयसार |
| 6 मरतसार | 13 संगीतलक्षणदीपिका |
| 7 संगीत चूड़ामणि | 14 स्वरप्रस्तार |

15 स्वरमेलकलानिधि

The following Music granthas will be found in the Palace Library at Trivandrum.

- | | |
|------------------|--------------------|
| 1 अंगहारलक्षण | 8 रसार्णवसुधाकर |
| 2 नाट्यमंथ | 9 संगीत चिंतामणी |
| 3 नाट्यवेदविवृति | 10 ,, चूड़ामणि |
| 4 नृत्यरत्नाकर | 11 संगीत सुधा |
| 5 बालराममंथ | 12 ,, सुधाकर |
| 6 नाट्यवेद | 13 सप्तस्वरलक्षण |
| 7 भावप्रकाश | 14 स्वरतालालिलक्षण |

The following will be found in the Central Library at Baroda :

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|------------------|------------------|
| 1 संगीत रत्नावली | 3 स्वरमेलकलानिधि |
| 2 संगीत रसकौमुदी | 4 संगीत मकरंद |

I am informed there are some more lately acquired by the Baroda Government.

The following are the treatises available in the Library of His Highness the Maharaja of Kashi.

- | | |
|--------------------------|------------------------|
| 1 संगीत रत्नाकर | 6 रागसारावली |
| 2 संगीत गधुनंदन | 7 रत्नाकर टीका सं० भू० |
| 3 सं० रत्नाकर स्वराध्याय | 8 उद्दे गुणा- (पर्शन) |
| 4 संगीत सारावली | 9 नघमाते आसकी (पर्शन) |
| 5 संगीत पारिजात | 10 नाददीपक |

The following are the Sanskrit works available in the Tanjore Palace Library :

- | | |
|------------------------|---------------------------------|
| 1 संगीत सारामृत | 9 रागप्रस्ताव |
| 2 " प्रस्तावली | 10 तालदशशानदीपिका |
| 3 रागात्मिका | 11 राग लक्षण |
| 4 अमिनन्ददर्पण | 12 दत्तिल कांडर्पायम् |
| 5 अष्टोत्तरसुतताललक्षण | 13 भगीत मकरंद |
| 6 तालप्रस्ताव | 14 चत्वारिंशच्छ्रम राग निरूपणम् |
| 7 ताल लक्षण | 15 संगीत दर्पण |
| 8 ताल दीपिका | 16 स० रत्नाकर |

The Government Oriental Library at Madras has the following

- | | |
|---------------|------------------|
| 1 मुसाल पुराण | 5 संगीत सारसमूह |
| 2 राग विशेख | 6 स्वरमेलकलानिधि |
| 3 भगीत दर्पण | 7 संगीताम्प्याय |
| 4 " रत्नाकर | 8 कोइलारहस्त |

The following works are supposed to have been acquired for the Royal Asiatic Library at Calcutta, by Mahamahopadhyaya Harprasad Shastri :

- | | |
|------------------|--------------------|
| 1 रागविबोध | 8 अनन्दजीवन |
| 2 गार्धर्भवेद | 9 सोमेश्वरयत |
| 3 रागचुंबकमणि | 10 गीतगिरिकाम्य |
| 4 संगीतसमूह | 11 संगीत रत्नदीपदी |
| 5 संगीतविधानिदान | 12 संगीतसागर |
| 6 संगीतकल्पलता | 13 गीतसार |
| 7 संगीत रागनन्दन | 14 भारतगानकाव्य |
| | 15 सामप्रकाश |

Having so far given a list of the works which are extant on the subject, and having also stated where they are available, I shall now mention the titles of such of them as have been already printed and published.

- | | |
|---------------------|------------------|
| 1 संगीत रत्नाकर | 7 संगीत मकरंद |
| 2 भारतनाट्य शास्त्र | 8 सद्भागवतमोदय |
| 3 स्वरमेलकलानिधि | 9 रागतामिणी |
| 4 रागविबोध | 10 संगीत पारिजात |
| 5 चतुर्दशिकासिद्धा | 11 हृदयचंद्रिका |
| 6 संगीत सारामृत | 12 हृदयप्रकाश |

- 35 सं० सार कलिका
- 36 सं० रागतत्त्वविबोध
- 37 हनुमन्तरागविभाषा
- 38 सं० रामकौतुक
- 39 सं० उपनिषत्सार

- 40 संगीत दर्पण
- 41 सं० आनन्दजीवन
- 42 सं० दर्पण-हिंदी
- 43 रागमाला
- 44 संकीर्णरागाध्याय

45 रत्नाकर टीका (कव्हीनाथ)

The following Sanskrit works will be available in the Government Oriental Library, Mysore.

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|------------------|---------------------|
| 1 अभिनयदर्पण | 8 संगीत मकरंद |
| 2 अभिनयमुकुट | 9 अभिनयप्रकरण |
| 3 अभिनवमरतसार | 10 रत्नाकरव्याख्या |
| 4 आदि भरत | 11 संगीत लक्षण |
| 5 संगीत दर्पण | 12 संगीतसमयसार |
| 6 भरतसार | 13 संगीतलक्षणदीपिका |
| 7 संगीत चूड़ामणि | 14 स्वरप्रस्तार |

15 स्वरमेलकलानिधि

The following Music granthas will be found in the Palace Library at Trivandrum.

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|------------------|-------------------|
| 1 अंगहारलक्षण | 8 रसार्णवसुधाकर |
| 2 नाट्यग्रंथ | 9 संगीत चिंतामणी |
| 3 नाट्यवेदविवृति | 10 ,, चूड़ामणि |
| 4 नृत्यरत्नाकर | 11 संगीत सुधा |
| 5 बालरामभरत | 12 ,, सुधाकर |
| 6 नाट्यवेद | 13 सप्तस्वरलक्षण |
| 7 भावप्रकाश | 14 स्वरतालदिलक्षण |

The following will be found in the Central Library at Baroda :

- | | |
|------------------|------------------|
| 1 संगीत रत्नावली | 3 स्वरमेलकलानिधि |
| 2 संगीत रसकौमुदी | 4 संगीत मकरंद |

I am informed there are some more lately acquired by the Baroda Government.

The following are the treatises available in the Library of His Highness the Maharaja of Kashi.

- | | |
|--------------------------|------------------------|
| 1 संगीत रत्नाकर | 6 रागसारावली |
| 2 संगीत रघुनंदन | 7 रत्नाकर टीका सि० भू० |
| 3 सं० रत्नाकर स्वराध्याय | 8 उक्ते गुणा-(पर्शन) |
| 4 संगीत सारावली | 9 नघमाते आसकी (पर्शन) |
| 5 संगीत पारिजात | 10 नाददीपक |

ed out of the ancient Swaras I may quote here what my learned friend Dr. Prabhakar Bhandarkar of Indore has to say about the difficulty of determining the relative pitches of the Swaras used in the Sama-Veda. He says "From Sangeeta Ratnakara I Chap v P, 58, and the Naradi Shiksha, it would appear that a "Rig" was chanted in monotone, a "Gatha" in two notes, and a Sama in three notes, a scale of four swaras seems also to have been used, and was called Swarantara. In what relations of pitch the notes stood in the last three cases, it is impossible to say. We are also ignorant of the stages by which the three notes of the Sama chant rose to the number seven, nor can we say with any certainty what relation these seven notes bore to the well known seven notes of the later music. The former were named Krishta, Prathama, Dwittha, Tritiya, Chaturtha, Mandra and Atiswara. It is certain that these are in descending order of pitch, but in what exact relation, it is impossible to say. Moreover, the names of the Sama notes, seem to have varied from time to time and in different parts of the country. The enumeration and notation by the first seven numerals is more modern" (Vide P 162 Indian Antiquary July, 1912)

In order to obtain, if possible, more information about the exact pitch relations of the Sama swaras, I personally visited Benares and consulted there such learned Samavedis as Wamanacharya, Bapat Shastri, Ganesh Guru and others, but I am sorry to say that they were unable to give any satisfactory explanation. I understand, however, that a lot of research work on this subject is going on in the southern presidency where, it is said, a more intimate knowledge of the Sanskrit granthas exists. For myself I have already confessed that I am unable to throw any light on the Sama scale just at present. In any case I suppose, it would not be of any practical use to enter into the subject of Sama music for the study of our present music.

The Granthas with which I propose to deal in this series, as being, in my opinion, necessary for such study will be

- | | |
|-------------------------|----------------------|
| 1 रागवर्गिणी | 10 अनुपसर्गांतराक्षर |
| 2 हृदयकौतुक | 11 अनुपाविलास |
| 3 हृदयप्रकाश | 12 अनुपाकृष्ट |
| 4 सर्गांत पारिजात | 13 रत्नसमुद्र |
| 5 सदागवक्षोदय | 14 स्वर्गमेलकृतानिधि |
| 6 रागमाला (पुष्पीक) | 15 रागविबोध |
| 7 रागमञ्जरी (पुष्पाक्ष) | 16 सगान सरामृत |
| 8 नर्तननिर्णय | 17 चतुर्दशमवाकिका |
| 9 रागप्रवर्गविबोध | 18 रागलक्षणम् |

We should be content with it for granted that the first thirteen of these belong to the system of Northern India, and the remaining five to the system of the Southern presidency. It is well-known that there are two systems of music in the country. The Northern system is known as the Hindustani system, and the Southern is called the Karnatik system. I am not an expert in the Southern system but I have studied it to some extent. I am not going to touch it in this system. I am of opinion that a student who can follow the *Gitans*, *Harmonies*, *Kalamandira*, *Raga*, *Manodhar*, *Manodhar*, *Chandrika*, *Indrakala* and *Raga*, *Lakshana* and *Raga*, will fully be equipped with his knowledge of the Southern system.

The students will perhaps be surprised to see that among the *Gitans* I propose to deal with, the names of the *Natya Shashtra* of Bharata and the *Shiksha* of Bharata do not appear. I have omitted them in this preliminary proposal. I do not deny their importance, but as far as I am aware of no system which has successfully solved the problems in all questions that there is student who wishes to make a careful study of these ancient works. I know there are some who are dealing with them, but they do not satisfy me. Attempts are being made to copy the *Shiksha* of Bharata and *Shiksha* of Bharata as nearly as possible to the one used by our present musicians. The ancient theory of *Harmonies* too, by some clever interpretation, which I have misinterpreted, is sought to be unearthed from the ancient *Shiksha* works. Ancient *Harmonies*, *Indrakala*, and *Raga* are boldly placed before the public for examination in their new garbs, though it must be stated that these have up to now failed to impress those who have devoted some of their time to the study of the *Gitans*. I have therefore purposely avoided entering these controversial matters in these articles and have selected those *Granthas* only which I deem proper to be made known to me to be of great practical importance. I do not, for a moment, insinuate that the attempts to copy *Shiksha* and *Ratna* are that I mentioned above are deliberately mischievous. We may say they are perfectly honest. But as they fail to satisfy the great test I have preferred to omit the consideration of the two ancient treatises on this occasion. I may mention here that there is a great difference of opinion among our modern scholars themselves as to the question whether or not the *shruti* was a fixed unit. Some scholars say it was, others deny that. Needless to say, the definition of *Shuddha* scale hinges on the solution of this question. We all know that the *Ragas* of *Ratna* are defined in terms of the *Murshid* and *Indra*, and there would remain indefinite so long as the *Shuddha* scale remains unsatisfactory and indefinite. So that, until there is a consensus of opinion as to the right value of a *Shruti* and until it becomes possible to determine the *Shuddha* scale of *Natya*

books. These two books, therefore, in my opinion, go outside the sphere of study of the ordinary music student and enter that of the research scholar. Reverting then to the list I have already mentioned, I shall deal with the Granthas therein named. About these there is a tolerable amount of certainty and also not much difference of opinion. I do not suggest that the music of those books is the same as that of Ratnakara or of Bharata, but these treatises are likely to throw considerable light on the music we sing and play today.

The great difficulty which a student of Natya Shastra and Ratnakara meets with at the very outset is that of correctly locating the positions of the Shrutis and the Swaras of those two ancient treatises. In the absence of a satisfactory solution of these, the remaining portions of the treatises remain perfectly unintelligible. The Gramas, Murchanas, Jatis and the Ragas, have all to be evolved, as we know, from the Shuddha and Vikrita Swaras which again depend upon their Shrutis. The positions of those Shrutis and Swaras, therefore, require to be placed beyond all reasonable doubt. It will perhaps not be out of place here to indicate how the difficulty for the student arises while attempting to study the Natya Shastra. I do not think it is anywhere disputed now that the Shruti Swara arrangement of Sharangdeva is essentially the same as that expounded by Bharata. If we then are able to arrive at any satisfactory conclusions as regards Bharata's Shrutis and Swaras, it would hardly be necessary to investigate the Shrutis and Swaras of Sharangdeva. We are told by our research scholars that Bharata lived in the 5th century AD and that Sharangdeva wrote his Ratnakara about the middle of the thirteenth century AD. We shall not dispute these dates. The great question before us is, what does Bharata say about his shrutis and Swaras, in the Natya Shastra. Fortunately for us, Bharata has very lucidly explained his Shrutis and Swaras at P 304, Chap 28 of his work the Natya Shastra, and it will be interesting to go through his explanation. But while doing so, it will be useful to constantly bear in mind the following two or three important rules generally followed by careful research scholars while interpreting ancient texts

- (1) The mind has to be kept entirely free from any preconceived ideas or theories
- (2) No statements or assumptions should be made which are not strictly warranted by the text in hand.
- (3) In the interpretation of ancient texts the directions given by the author himself as a guide for interpretation must be strictly adhered to. It will not be permissible to take a guide what subsequent writers have said on the subject.

With these important cautions in mind, we shall now approach the subject of Bharata's Shrutis and Swaras.

To begin with, says the author: "मध्यमग्रामे श्रुत्यपरुष्टः पंचमः कार्यः । पंचम श्रुत्युत्कर्षादिपकर्षाद्वायदन्तरं मर्दवादायतत्त्वाद्वा तत्प्रमाणश्रुतिः । In fact, in this small sentence he lays down the definition or rather the measurement of his Shruti. He takes it for granted that his learned readers are practical musicians, who know the difference between the Panchama of his Shadja Grama and that of the Madhyama Grama. With that assumption, he further explains his method of fixing the Shrutis of his scale. The Sanskrit passage may be translated thus: "In the Madhyama-Grama, the 'Panchama' is lowered one shruti. This lowering of the Panchama to obtain the Madhyama Grama 'Panchama' or the raising of the Madhyama Grama 'panchama' by one shruti to obtain the Shadja Grama 'panchama' is the measure of a shruti."

निदर्शनं तासामभिव्याख्यास्यामः ।

Translation.—"The following examples will clearly indicate the position of the shrutis."

यथा द्वे वीणे तुल्यप्रमाणतन्त्र्युपवादनदण्डमूर्च्छने षड्ज ग्रामाभिते कार्ये ।

Translation.—"First let the vinas having wires, instruments of playing, wooden frame, and murchhanas be made of identical quality and let them both be tuned to the Shadja Grama scale." (Evidently he expects readers to know how to do it).

Now,

तयोरेकतरस्यां मध्यमग्रामिकीं कृत्वा पंचमस्यापकर्षे श्रुतिम् ।

Translation.—"Set one of the two Vinas to Madhyama Grama by lowering its 'panchama' one shruti only." (The reader as a practical musician is expected to know the lowered 'panchama').

तामेव पंचमवशात् षड्ज ग्रामिकीं कुर्यात्

Translation.—"The next step is to make this Madhyama-grama-vina a Shadja-grama-vina, not by restoring the lowered 'panchama' to its original pitch, but by taking it as a real Shadja-grama 'panchama' of four srutis." (In other words the author wishes the reader to lower all the other swaras of the scale, namely सा, रे, ग, म, घ, नि,

Thus, एवं (सा वीणा) श्रुतिरपि कृष्टा भवति ।

Translation.—"The whole Madhyama-grama-vina after this would be lower than the other untouched shadja-grama-vina by one sruti."

Translation — "By repeating the same operation (i.e. by lowering the new madhyama-grama-vina 'panchama' one sruti and accepting the same as shadja grama 'panchama') the result would be

गांधारनिषादवन्तौ स्वरा इतरस्या धैवतर्षभा प्रविशतः द्विमुत्पत्तिकत्वात् ।

Translation — "The swaras 'Gandhara' and 'Nishada' would coincide with the 'Rishabha' and 'dhaivata' of the Shadja-grama-vina because they are only two srutis higher in pitch than the 'rishabha' and 'Dhaivata' "

पुनस्तद्वेवापकर्षाद्वैवतर्षभावितरस्या पचम षड्जप्रविशतः त्रिमुत्पत्तिकत्वात् ।

Translation — "Another similar operation and the 'dhaivata' and 'rishabha' of the 'Chala Vina' will enter, that is, will coincide with the 'panchama' and 'Shadja' of the untouched vina the distance between them being only three srutis (We know that according to all ancient writers the 'dhaivata' and 'rishabha' are only three srutis higher than the panchama and 'Shadja' respectively) तद्वत्पुनरपि तस्या पचम षड्जप्रविशतः इतरस्या मध्यम गांधार निषादवन्तः प्रवेक्ष्यति चतुः मुत्पत्तिकत्वात् ।

Translation — "One more repetition, and the 'panchama' 'Madhyama' and 'shadja' of the chala-vina will coincide with 'madhyama' 'gandhara' and 'nishada' of the 'achala-vina,' the distance between the two sets of swaras being only four srutis "

एवमेव निदर्शनेन द्विमात्रिकयो द्वाविंशतिः श्रुतयः प्रत्यवगन्तव्याः ।

Translation — "This illustration will clearly show the twenty two srutis of the two gramas the author expects the reader to locate the srutis and Swaras in the light of this explanation.)

If we assume our interpretation of the text to be correct it will appear that Bharata's reasoning is quite lucid and at the same time sufficiently simple. The following observations will make Bharata's view more clear. To begin with, Bharata says, that the two vinas are first to be tuned to the shadja grama scale. We will say there are only seven wires to represent the seven notes of the scale on each of the two vinas. Evidently then, seven wires are to be tuned to the seven correct notes of the shadja grama scale. I have already said that Bharata pre-supposes in his reader a perfect knowledge of the 'panchamas' of the two Gramas and an ability to tune the vinas according to the directions he proposes to give. When one of the vinas is to be made *Madhyama gramic*, all that he means is that the wire representing the 'panchama' in the shadja grama is to be slightly loosened so as to make it produce the 'panchama' of the madhyama, all other notes remaining in their original positions. The second direction of the author is most important. He directs the madhyama gramic vina to be

verted again into a shadja gramic vina, but he wants this to be done not by restoring the 'panchama' to its original pitch, but by accepting the changed 'panchama' as a proper 'panchama' for the new shadja gramic vina. Now we know that this can be accomplished only by lowering all the other notes of the vina by one sruti and that is what Bharata says will be the result. He says

“ एनं सा बीणा श्रुत्यपकृष्टा भवति । ”

Translation.—When the Chala-vina is thus made shadja gramic the pitch of 'Sa' will be three srutis, that of 'ri' will be six srutis, of 'ga' eight sruti and so forth. By repeating this process another series of srutis namely, two, five, seven, eleven, fifteen, eighteen, twenty will be discovered. But the 'ga' and 'Ni' of the Chala vina will now coincide with the 'ri' and 'dha' of the achala vina. On another repetition of the same process, the swaras 'sa', 'ma', 'pa' of the chala vina will coincide with the 'ni', 'ga' and 'ma' of the Dhruva or achala vina.

It will be readily conceded, I suppose that the process so elaborately described by Bharata will be possible only if the Sruti interval remained the same all through the octave. According to Bharata then, the sruti was a real unit of measurement in determining the ratio between the several Swaras. In other words, the ratio of the first to the second sruti was equal to the ratio between any two consecutive srutis. There are twenty two srutis in all and if we take the starting point to be the sruti of 'ni' in the lower octave, and as equal to 1, then the twenty-second sruti, that is of the higher 'ni' would be 2. There being twenty-two equal intervals between the higher and the lower 'ni' each interval would be equal to the twenty-second root of 2.

I do not claim any originality for this explanation of Bharata's srutis. The view was submitted before the first All-India Music Conference by a learned scholar of my part of the country, namely the late Mr. V. V. Phadke, retired first class subordinate judge, in the year 1916. The view appeals to me, and I have therefore, thought it proper to place it before my readers. The late Pandit Abraham of Tanjore also read a paper before the first All-India Music Conference at Baroda on the srutis of Sharangdeva Pandit, and showed that no scale in which the srutis were taken as unequal could under any circumstances be accepted as Sharangdeva's shuddha scale. The Pandit's paper is now printed and published, and I shall not write about it here.

The chief object of these articles is to place before the readers a comparative analysis of the different Sanskrit works on Indian Music written at different times, in order that such comparison should help in the determination of a suitable system for our present Hindustani Music.

In dealing with the Sanskrit texts, I propose, as I said before, to give in each case the following details —

- (1) The name and place of the author, so far as can be traced
- (2) The probable date of the work
- (3) The explanation of the *Srutis* and *Swaras* as explained in the treatise
- (4) The *Thatas*, if any, used for the classification of the *Ragas*
- (5) The *Janya Ragas* and their classification under the *Thatas*
- (6) General remarks

In some cases charts showing the positions of the *Srutis* and *Swaras* will be given for ready reference

RAGA TARANGINI

The author of this work is Lochana Pandit. He lived some where in the Mithila district. The date of the work as given by the author himself is as follows.

भुवनमुदयनितशके श्रीमद्दहालसेनराग्यार्दी ।
वर्षैकवाह्मिणे ध्रुवस्तवातन् विशाखाया ॥

According to this, the date works out at Shaka year 1082. Some of our music scholars are of opinion that the date is more or less doubtful, and in support of their view they rely on the following internal evidence supplied by the work. Lochana Kavi quotes from another poet Vidyapati, who, it is believed, lived about the end of the fourteenth century A.D. The late Raja S. M. Tagore in his *Universal History of Music* tells us that Vidyapati was in the service of Shiva Singh the Raja of Mithila in the latter half of the fourteenth century A.D. Copper plate evidence also goes to show that a Rajah of Mithila named Shiva Singh gave a *jahagir* to the poet Vidyapati in the year 1399 A.D. Unless it can be proved that this Vidyapati is not the same as that from whom Lochana quotes, we must uphold the contention of the scholars. Another point these scholars lay stress on is that Lochana in his *Tarangini* mentions clearly named *Ragas* like 'Imam' and 'Farodast', which *ragas*, they argue, could not have become so popular about the Shaka year 1082 when the work purports to have been written. Lochana in the above sloka gives some astronomical details, but as I have not been able to ascertain what the reference really means, I am unable to fix the date for

them. Hrdaya Narayana Deva, the author of Hrdaya Prakasa and Hrdaya Koutuka quotes from the Tarangini. These two last named treatises, were written about the year 1660 A.D.

We shall now go into the subject matter of the Tarangini. Lochana, after giving the divisions of Gita as Nibaddha and Anibaddha at once takes up the question of the Srutis. In common with all his predecessors, he recognises twenty two srutis, to the scale, with their well-known names Tivra, Kumudvati, etc. The distribution of srutis among the seven shuddha swaras, as चतुश्चतुश्चैव षड्जमध्यमपञ्चमाः । १० is also accepted by him. The swara becomes manifest on its last sruti. The accompanying chart will show at a glance how he places his swaras on his twenty two srutis.

Chart Showing the Shuddha and Vikrita Swaras of the Raga Tarangini.

Shrutis.	Shuddha swaras.	Vikrits swaras.	Shrutis.	Shuddha swaras.	Vikrits swaras.
१. तीव्रा			१२. प्रीती	...	(तीव्रतम गांधार)
२. कुसुद्वती			१३. मर्जनी	शुद्ध मध्यम	अति तीव्रतम गांधार
३. मन्दा			१४. क्षिती		
४. छन्दोवती	शुद्ध षड्ज		१५. रक्ता	...	तीव्रतर म
५. दयावती			१६. सन्दीपिनी		
६. रंजनी	...	कोमल ऋषभ	१७. आलापिनी	शुद्ध पंचम	
७. रक्तिका	शुद्ध ऋषभ		१८. मदन्ती		
८. रौद्री			१९. रोहिणी	...	
९. क्रोधी	शुद्ध गांधार		२०. रम्या	शुद्ध धैवत	कोमल धैवत
१०. वज्रिका	...	(तीव्र गांधार)	२१. उग्रा		
११. प्रसारिणी	...	तीव्रतर गांधार	२२. क्षोभिणी	शुद्ध निषाद	
१. तीव्रा	...	(तीव्र निषाद)	२. कुसुद्वती	...	तीव्रतर निषाद=काकरी
३. मन्दा	...	(तीव्रतम निषाद)			

(For detailed explanation, the reader is requested to refer to the translation which follows).

रागतारंगिणी स्वरसंज्ञा प्रकरणम् ।
स्वस्वशेषश्रुतिं त्यक्त्वा यदा ऋषभ धैवतौ ।
गायन्ते गुणिभिः सर्वैस्तदा तौ विकृतौ मतौ ॥

Translation.—When the notes 'ri' or 'dha' are played or sung on their penultimate srutis, literally when they give up their last srutis,

they are supposed by experts to have become komal ri and Komal dha, (flat 'ri' and flat 'dha').

Observation.—Shuddha ri and shuddha dha are the sounds of the seventh and twentieth srutis respectively in the ordinary twenty two sruti scale. Komal ri and komal dha therefore, will be the sounds of the sixth and the nineteenth srutis. The Orthodox view has always been that ■ shuddha swara manifests itself on its last sruti

शृङ्गाति मध्यमस्यापि गांधारः प्रथमां मुनिम् ।

यदा तदा जनेरेव तीम इत्यभिधीयते ॥

Translation—When Gandhara stands on the first sruti of Madhyama it is said by the experts to become 'tivra' or sharp

Observation.—The srutis between shuddha 'ga' and shuddha 'ma' are four, the fourth being the sound of the shuddha 'ma'. The gandhara therefore could move up four srutis, right upto the place occupied by the shuddha 'ma'. It will be carefully noted that the note 'ri' only became komal but not tivra. The note gandhara again, only moved up and became tivra, but was not allowed to go back and become komal.

द्वितीयाप्यपि चेदेव तदा तीव्रतरः स्मृतः ।

तृतीयाप्यपि चेदेव तदन्तर्गततमः स्मृतः ।

चतुर्थीप्यपि चेदेव तदतिव्रततमः स्मृतः ॥

Translation—When gandhara stands on the second sruti of madhyama, it becomes tivratara 'ga' and when it stands on the third sruti of that note it becomes tivratama 'ga'. When again it rises up to the fourth or last sruti of 'ma' it becomes at-tivratama 'ga'.

Observation—A glance at the sruti swara chart will show that at-tivratama 'ga' and shuddha 'ma' are identically the same sound. The object of giving two different names to the same note will be clear when we examine the definitions of the ragas later on.

षष्ठस्य च निष्ठादधेद शृङ्गाणि प्रथमां मुनिम् ।

तदा तर्थातिभिः सोऽपि तीव्रइत्यभिधीयते ॥

द्वितीयाप्यपि चेदेव तदा तीव्रतरः स्मृतः ।

तृतीयाप्यपि चेदेव तदा तीव्रतमः स्मृतः ॥

Translation—When nishada takes the first sruti of shadja, it becomes tivra nishada, according to those who are learned in music. When nishada takes the second sruti of shadja, it becomes tivratara 'ni' and when it takes the third sruti of shadja, it becomes, tivratama ni.

Observation.—It will be observed that although the distance of the shuddha shadja above the nishada is four srutis, the rise of nishada is only through three srutis. Shadja and panchama do not under any circumstances, take the names of their respective preceeding notes. It will be remembered that gandhara could rise up to the fourth sruti of maddhayama, and become ati-tivratama 'ga'. There are four srutis between 'ma' and 'pa', but ma could rise only upto the third sruti of 'pa' and become tivra 'ma' tivratara 'ma' and tivratama 'ma'. There is no ati-tivratama 'ma'.

षड्जस्य द्वे श्रुती गृह्णन् निषादः काकली स्मृतः ।

ताम्रितरे निषादैव गेयाः सैव विचक्षयैः ॥

Translation.—When nishads takes two srutis of shadja, it is also called Kakali nishada. It should be sung in the place of tivratama nishada.

Observation.—Kakali is a well-known swara name in the southern music system. Kakali nishada corresponds with the tivra nishada of the Hindusthani system. Sadharana 'ga' Antar 'ga', Kaishika 'ni', and Kakali 'ni', are now universally understood to mean komal 'ga' tivra 'ga', komal 'ni', and tivra 'ni', of the Hindusthani system. The important question before us will now be what was the shuddha Thata of the Raga Tarangini? The answer will be it was no other than the Kafi Thata of our current Hindusthani music system. The shuddha 'ga' and shuddha 'ni' of Lochana Pandita are the Hindusthani komal 'ga' and komal 'ni'. The conclusive evidence, however, on this point will be seen when we come to discuss the Thata definitions. The shuddha Thata of the Tarangini could never be our modern Bilawala Thata, because, the tivra 'ga' and tivra 'ni' necessary in the Bilawala scale are vikrita notes according to the Tarangini. Then again it will be noted that the notes 'ri' and 'dha' become komal 'ri' and komal 'dha'.

Lochana Pandita lays down the following twelve Thatas and then classifies his 'janya' ragas under them :—

(१) भैरवी	(५) केदार	(९) घनाश्री
(२) तोडी	(६) इमन	(१०) पूर्वा
(३) गौरी	(७) सारंग	(११) मुखारी
(४) कर्णाट	(८) मेघ	(१२) दीपक

These Thatas are described by the author as follows :—

(1) BHAIRAVI

शुद्धाः सप्तस्वरा रम्बया वादनीयाः प्रयत्नतः ।

तेन वादनमात्रेण भैरवी जायते शुभा ॥

Translation—The seven shuddha swaras should be carefully sung or played and the moment that is done the Thata called Bhairavi will be produced

Observation—This definition of the Bhairavi Thata will no doubt cause surprise. The Bhairavi Thata known to the student of Hindusthani Music takes komal 'ri' and komal 'dha' that of Lochana is the Kafi Thata. The Bhairavi mela of the southern system takes 'ri' tivra and 'dha' komal of the Hindusthani system. Lochana evidently knew the southern practice as well. Because in the next verse he says —

अन्ये तु मेरवी रागे धैवत कोमल विदुः ।
तदश्रुत्वा यतस्तादृक् नाय रगाश्रुजकः ॥

Translation—Others use a komal dhavata in the Bhairavi raga I know, but that is incorrect. Bhairavi with a komal dhavata will not be pleasing

(2) TODY

श्रुत्वाः सप्तस्वराः शर्वा रिधौ तेषु च कोमलौ ।
तोडी सुरागिणो ज्ञेया ततो गायकनायकः ॥

Translation—Take the seven shuddha swaras again. Make 'ri' and dha komal and the resulting Thata will be Todi. It should be sung as such by the singer

Observation—The Todi Thata of all ancient Sanskrit writers corresponds with our modern Bhairavi Thata of the Hindusthani system. Any of our southern friends will confirm this statement. The Todi Thata of the southern system is even now the same as our modern Bhairavi Thata. This verse proves that the shuddha scale of Lochana was our modern kafi Thata, because the Kafi Thata could easily be converted into the Todi Thata, our modern Bhairavi by making 'ri' and 'dha', komal

(3) GOURI

एवं सति च गंधारी द्वे श्रुती मध्यमस्य चेत् ।
गृह्णाति काकली निःस्यात्तदा गौरी प्रवर्तते ॥

Translation—If in the last mentioned Todi Thata, the note gandhara takes two srutis of maddhyama, and the note nishada becomes Kakali, the resulting Thata will be Gouri

Observation—The Gouri Thata of the ancient writers is universally admitted to correspond with our modern Bhairavi Thata. Here again we have further proof to show that the Shuddha Thata of Lochana was our Kafi

(4) KARNAT.

शुद्धाः सप्त स्वरास्तेषु गान्धारो मध्यमस्य चेत् ।

गृह्णाति द्वे शुती गीता कर्णादी जायते तदा ॥

Translation.—If you take the shuddha swara scale of seven notes and raise gandhara therein by two srutis, the resulting Thata will be Karnat.

Observation.—The Karnat Thata will be the modern Khamaj Thata of our Hindusthani system in which all notes except the nishada are shuddha.

(5) KEDARA.

एवं सति निषादश्चेत् काकली भवतिस्फुटम् ।

वीणायां व्यक्तिमाधत्त केदारसंस्थितिस्तदा ॥

Translation.—If in the Karnat scale, the nishada becomes Kakali the vina will produce the Thata known as Kedara.

Observation.—The Kedara Thata of the Tarangani will correspond with our modern Bilawal scale.

(6) IMAN.

एवं सति च संस्थाने मध्यमः पञ्चमस्य चेत् ।

गृह्णाति द्वे शुती राग ईमनो जायते तदा ॥

Translation.—If in the last mentioned Kedara Thata the mad-dhyama takes two srutis of panchama, the resulting Thata will be Iman.

Observation.—This is exactly our modern Yaman Thata of the Hindusthani system. The only difference is that the modern Hindu-sthani musician uses the swara names tivra 'ga' tivra 'ni' and tivra 'ma' in place of Lochana's Tivratara 'ga' tivratara 'ni' and tivratara 'ma'.

(7) SARANG. (A)

एवं सति च गान्धारः शुद्धमध्यमतां व्रजेत् ।

धश्च शुद्ध निषादः स्यात् सारंगो जायते तदा ॥

Translation.—If in the Iman Thata just described, the Ga coincides with the shuddha maddhyama and the dhaivata takes the place of the shuddha, nishada the scale produced would be the Saranga Thata.

Observation.—The Gandhara which stands in the place of shuddha 'ma' would be called ati tivratama 'ga' and the dhaivata standing in the place of shuddha nishada would be called tivratara 'dha'. In ancient music, two notes of the same denomination were not allowed to appear in the same scale. Hence the use of the atitivratama

'ga' for shuddha 'ma' The Saranga scale was to be formed from the Imam, and this last already had the tivra 'ma' in it

(8) MEGHA

धनिषादौ च सार्द्धं स र्णाटस्य गमौ यदि ।
मवेतां रागराजन्यो मेघरागः प्रजायते ॥

Translation—In the Megha Thata the dhavata and nishada, will be those of Saranga, and the gandhara and maddhyama will be the same as used in the Karnat Thata

Observation—The retention of dhavata and nishada of Saranga merely means that both nishadas have to be used in the megha scale. The 'ga' and 'ma' of Karnat would mean tivratara 'ga' and shuddha 'ma' practically. In the Saranga Thata there were two maddhyamas (tivra and komal), but no gandhara. The ati-tivratama 'ga' was only another name for Shuddha 'ma'. The difference, therefore, between the Megha and Saranga scales, will be clearly seen. Our modern shuddha 'dha' of the Kafi Thata does not appear in the Megha scale

(9) DHANASRI

नशमः कोमलो गस्तु द्वेयुती मध्यमस्यचेत् ।
दृक्ताति द्वे युती मध्य पचमस्य विशेषतः ॥
धनतः कोमलो निश्च बद्धस्य द्वे युती यदा ।
दृक्ताति रागिणी रम्या धनाभिर्जायते तदा ॥

Translation—When nshabha becomes komal and gandhara takes two srutis of maddhyama, when maddhyama takes two srutis of panchama when dhavata becomes komal and the nishada takes two srutis of the shadja, the beautiful scale known as Dhanashri is the result

Observation—This scale is the same as that of our Puriya Dhanashri. It is well-known that in this Hindusthani scale, the 'ri' and 'dha' are komal, and 'ga' 'ma' and 'ni' are tivra

(10) PURVA

इमं स्वर मस्थाने निषादयमर्षा युनिम् ।
दृक्ताति धेवतर्भषा पूर्वायाः स्वरसंस्थितिः ॥

Translation—In the Purva thata, all the notes of the Imam thata with the exception of the Dhavata are to be retained. The dhavata is to be raised one sruti

Observation—In this scale then we have 'sa', 'ri', 'ga', 'ma', 'pa', 'dha', 'ni' all of the Imam Thata and komal 'ni' which will be called tivra

'dha' by Lochana. No such scale appears to be in use in the music system of Western India at present. But there is one like it in the Southern system and is known there by the name of Chitrambari.

(11) MUKHARI.

शुद्धाः सप्तस्वरास्तेषु धैवतः कोमलो भवेत् ।

वीणायां जायते शुद्धा मुखारी संस्थितिस्तदा ॥

Translation.—If in the shuddha swara scale the dhaivata becomes komal, the resulting scale will be called shuddha Mukhari, or Mukhari.

Observation.—This scale will correspond with the modern Hindusthani Asawari Thata or according to some the Jaunpuri Thata. The Southern scale answering this description would be Nata Bhairavi. There is a Mukhari scale in the Southern system also but it materially differs from Lochana's Mukhari.

(12) DEEPAKA.

The author gives no definition of this Thata. He simply says:—

सर्वैर्मिलित्वा लेख्यः ।

This shows that the Raga Deepaka had already gone out of use. Lochana says, if the Raga has to be revived, its features should be settled by the best living experts, evidently in a Conference.

Quaere.—What becomes of the usually told story that the raga deepaka was sung by Miya Tansen with disastrous results to himself in Akbar's Court.

The twelve thatas of Lochana with their swaras may be written in terms of the Hindusthani swara names thus.

- (१) मैत्री—सा, री शुद्ध, ग कोमल, म शुद्ध, प शुद्ध, ध शुद्ध, नि कोमल ।
- (२) तांडी—सा, री कोमल, ग कोमल, म शुद्ध, प शुद्ध, ध कोमल, नि कोमल ।
- (३) भौरी—सा, री कोमल, ग शुद्ध, म शुद्ध, प शुद्ध, ध कोमल, नि शुद्ध ।
- (४) कर्णाट—सा, री शुद्ध, ग शुद्ध, म शुद्ध, प शुद्ध, ध शुद्ध, नि कोमल ।
- (५) केदार—सा, री शुद्ध, ग शुद्ध, म शुद्ध, प शुद्ध, ध शुद्ध, नि शुद्ध ।
- (६) इमन—सा, री शुद्ध, ग शुद्ध, म त्रिवि, प शुद्ध, ध शुद्ध, नि शुद्ध ।
- (७) सारंग—सा, री शुद्ध, म शुद्ध, & त्रिवि, प शुद्ध, ×, नि कोमल & शुद्ध ।
- (८) मेघ—सा, री शुद्ध, ग शुद्ध, म शुद्ध, प शुद्ध, ×, नि कोमल & शुद्ध ।
- (९) पूर्वी—सा, री शुद्ध, ग शुद्ध, म त्रिवि, प शुद्ध, ×, नि कोमल & शुद्ध ।
- (१०) धनाश्री—सा, री कोमल, ग शुद्ध, म त्रिवि, प शुद्ध, ध कोमल, नि शुद्ध ।
- (११) मुखारी—सा, री शुद्ध, ग कोमल, म शुद्ध, प शुद्ध, ध कोमल, नि कोमल ।
- (१२) दीपक—Nil.

The author classifies his seventy-five 'janya' ragas under these *Thatus* as follows—

- (१) मैत्री—भैरवी, नीलांबरी ।
- (२) तोढी—तोडी ।
- (३) गौरी—मालव, धीमौरी, चैतंगौरी, पण्टी गौरी, देवी तोंडी, देवगौरी, गौग, विवण, मुलतानी, घनाभी, वसन्त, भैरव, विमान, रामकली, गुजरी, बहूली, रंका, मटियाग, खट, मालवपंचम, जयतंधी, आमावरी, देवगंधार, मिन्धी आमावरी, गुणकरी ।
- (४) कर्णाट—कर्णाट, बागीचरी, लम्माच, सोरठ, परज, माक, जयजयवन्ती, हुडुन, कामोद, केदार, मालवचंद्रिक, विंदोल, छधरार्ह, अठाला, गायकनडा, भंगग ।
- (५) केदार—केदारनाड, आमीतनाड, खवाग्नी, छंछामरण, विदागता, ईदी, इयाग, छायानाड, भूपाळी, भीमपलायी, कौंडिक, माह ।
- (६) इमन—इमन, मुद्रकल्याण, पुरिया, जयकल्याण ।
- (७) सारंग—सारंग, पटमजरी, विंदावनी, सामन्तमाग, बडईस, ।
- (८) मेघ—मेघमङ्गल, गौडसांग, बिलावळ, अईया, मुद्रमुद्र, देम, मुद्रनाड ।
- (९) घनाभी—घनाभी, ठलित ।
- (१०) पुरी—पूरी ।
- (११) मुसारी—मुसारी ।
- (१२) दांपक—Nil.

It will be observed that all these janya ragas of the Tarangini are known to the Hindusthani musicians of the present day. The *grantha* therefore should be of the greatest historical importance to them. It is interesting to note how many of these janya ragas have changed their swaras during the Mohamedan regime. Some of the ragas seem to have retained their original *Thatus* even to this day. The author does not give any detailed definition of the janya ragas because I believe the work *Tarangini* is essentially a book on prosody and not on Music. As to the tunes assigned for the singing of these ragas the author says as follows:—

अर्वाचान गद्यमयाः ।

शब्दे मुहूर्ते गान्त्यो माचो रागमयमः ।

अदभेदपरेष्टायां येन रामकली पुनः ॥

शतवैष्टावली येन पूर्वके हृदयेऽपि च ।

पूरुषं कति शब्दो लोडमति यनाह्वम् ॥

छन्दगी वतामी च येन गायकनादकेः ।

दिवा तृतीय इहो गात्रव्यासायर्ग जनेः ॥

काडी मय्याह्वनने सरुगेऽपि च गीयते ।

अथके नये हेतस्तद्वत् गान्तु मादव ॥

अपराहावसाने वा सायान्ने सति याति वा ।
 सायंकालस्तु कालो वै गौरासगस्य भूतले ॥
 निशामुखे तु कल्याणः केदारस्तु महानिशि ।
 द्वितीयग्रहरे रात्रौ कर्णाटः सर्वसंमतः ॥
 तृतीयग्रहरे रात्रावदानोऽपि च गायते ।
 अपराह्णेपि सौराष्ट्रः प्रमाते संगवेऽपि च ॥
 पंचमो मेघसंचारे मल्लारः परिकीर्तितः ।

These times of singing throw a good deal of light on the modern classifications of the Hindusthani ragas. The following times for instance will attract particular attention of the Hindusthani Musician.

BHAIRAVA & RAMAKALI.—To be sung in the early morning.

GOURI.—To be sung in the evening.

BILAWALI.—To be sung in the first quarter of the day.

KALYAN.—To be sung in the first quarter of the night.

TODI and SUHA.—To be sung in the forenoon.

SARANG.—To be sung at midday.

KANADA.—To be sung at midnight.

ADANA.—To be sung in the third quarter of the night.

MEGHA.—To be sung in the rainy season.

Lochana has also included in the Tarangini a small chapter on Raga mixtures,

(सकलदेश साधारण गुणिगण प्रसिद्ध रागसंकराः)

which also deserves attention.

HRDAYA KOUTUKA AND HRDAYA PRAKASHA

These are two small but interesting treatises. The name of the author is Hrdaya Naraindeva. He describes himself as follows :—

“ इति गडादेशनरेश श्री हृदयसाहि विरचितं हृदय कौतुकम् ”

No date is given in the book by the author, but we can fix an approximate date for the author with the help of some other works. In the Hrdaya Koutuka, the swara prakarana we find is borrowed bodily from the Raga Tarangini. That means that the work was written some time after the fifteenth century. Dr. Sukthankar, late of the Archaeological Survey, India, at my request tried to ascertain the date of Hrdaya Narain and found that the last named ruler, ruled in Gada desha about the Samvat year 1724, i.e. A.D. 1660. The great importance of Hrdaya-sha's works lies in the way he fixes the exact places of his shuddha and vikrita swaras. He describes these in terms of the lengths of the

sounding string of his Vina The relative pitches of those notes therefore could be easily fixed with mathematical accuracy. Ahobala Pandita the author of the Sangeeta Panjara has also done it, but we are not sure whether he copied from Hydaya's book or vice versa.

We shall now proceed to the swara prakarana of Hrdaya Koutuka thus.

सस्वशेषमिति त्यक्त्वा यदा कथमधीवती ।
 गौयते गुणिभिः सर्वैस्तदा ती कोमली मती ॥
 गृह्णाति मध्यमस्यापि बाधतः प्रथमा भुतिम् ।
 यदा तदा जर्जरं ताम् इत्यभिधीयते ॥
 द्वितीयामपि चेदेव तदा तीमताः स्मृतः ।
 तृतीयामपि चेदेव तदा तीमताः स्मृतः ॥
 चतुर्थामपि चेदेव तदा तीमताः स्मृतः ।
 अतितीमता मो गस्तु सांये परिग्राह्यते ॥
 षड्जस्य च निषादभेद गृह्णाति प्रथमा भुतिम् ।
 तदा संगतिभिः सांये ताम् इत्यभिधीयते ॥
 द्वितीयामपि चेदेव तदा तीमताः स्मृतः ।
 तृतीयामपि चेदेव तदा तीमताः स्मृतः ॥
 षड्जस्य द्वे भुति गृह्णन् निषादः काकली स्मृतः ।
 तीमते निषादे गेया सा च विचक्षणैः ॥

these slokas have been taken by the author from the Raga Tarangini of Lochana and as they have already been translated, it is not necessary to further discuss them here. Hrdayesha invents a new raga and calls it Hrdaya-raga. He uses two new swaras in it, namely, tri-sruti 'ma' and tri-sruti 'ni' and lays down a new Thata for the raga containing these new notes. He says —

रागिणी हृदयेशेन या हृदयरमेति ।
 उता तदनुगेषेन रियतिस्तस्य त्रयोदशी ॥

Translation.—Hrdaya having introduced an altogether new raga under the name of Hrdaya-raga has also added a new Thata to the ancient twelve

The ancient twelve Thatas he takes from the Raga Tarangini. We have already gone through them and shall not repeat them. About the Deepaka Thata, the author says *डाडकचै दीपक सगधन रेणुम्*. This shows that Deepaka Raga was not sung also in his time. It follows a fanciful division of Ragas into four classes

एतासु सकला रागा जायन्ते वादनक्रमाः ।

ब्राह्मणाः क्षत्रिया वैश्याः शूद्रास्ते स्युःश्चतुर्विधाः ॥

संपूर्णा ब्राह्मणाः प्रोक्ताः क्षत्रियाः पाडवा मताः ॥

औडुवाः कथिता वैश्याः शूद्रास्तदितरे क्वचित् ॥

The janya ragas are fully described in the Hrdaya koutuka. The sloka defining a raga, gives not only the 'varjyavarjya' swaras of it, but also gives its swara-swarupa.

Thus.

गमौ पनी धनी सोरिः सनिसा रिगमाः पधौ ।

मपौ सरी सनिधपा मपौ गम-गमा रिसौ ।

हंमीररागराजन्यः संपूर्णः कथितो बुधैः ॥

गमौधसौ सधपगा रिगौ रिसधपा धसौ ।

रिगौ रिगरिसाश्चैव भूपाली कथितौडुवा ॥

गमौ पनी सनिधपा मगौ मरिसाग्र मः ।

खंवावती च संपूर्णा कथ्यते गायकोत्तमैः ॥

सरी गमौ पधनिसा रिसौ धपगमा रिसौ ।

पधौ निसौ च संपूर्णा प्रोक्ता वेलावली बुधैः ॥

This is really a very useful method of describing a raga. I have made use of it in one of my publications on the Hnidusthani ragas.

HRDAYA—PRAKASHA.

This is another work by the same author. It is much more interesting than the Koutuka. In this book the author describes the position of the shuddha and vikrita swaras in terms of the lengths of the sounding strings of the Vina. The classification of the ragas also is instructive and more scientific. Ahobala in his Sangeet Parijata also, describes his swaras in terms of the lengths of the sounding string as we shall see hereafter. But we do not know whether he got that idea from Hrdaya's book. Some scholars on the contrary suspect that Hrdaya took the idea from Ahobala. There is no reliable evidence on the point but there are two facts which may lend some colour to the last mentioned suspicion. Hrdaya in his Koutuka omits to fix the positions of his shuddha and vikrita swaras in terms of the lengths of the strings. And secondly, Sangeeta Parijata is a much more elaborate work than the Hrdaya Prakasha. All will depend therefore upon the question whether or not the Parijat was written before the Prakasha.

We shall now consider some of the leading features of the Prakasha. The author begins by saying :—

संगीतशास्त्रमर्चस्वममाधारणगोचरम् ।
 वाणादौ रागमेलादिहृदयेन कथ्यते ॥
 आकरे बह्वोमेला द्वादशोपयोगिनः ।
 मेलः स्वरममृदुः स्याद्रागव्यञ्जनशक्तिमान् ॥

Translation—The secrets of the science of music being intelligible only to the specially gifted, Hridaya proposes to explain them with the help of the Vina. There are innumerable melas or Thatas, described in the Ocean of Music but only twelve of these are useful here. A Thata is a collection of notes capable of producing ragas.

Observation—Āhobala Pandita has mentioned thousands of Thatas in his Sangeeta Parijata. We wonder whether the word "akara" is cunningly used to hint at those

स्वर प्रकरणम् ॥

स्वाराश्च षड्जरूपमां गांधारो मध्यमस्तथा ।
 पञ्चमो धैवतश्चैव निषाद इति मस्य ते ॥
 द्विभुतिगोनिषादस्य प्रत्येकं त्रिभुती रिधी ।
 चतुःभुतिममायुक्ता पूर्ववत्समपाः स्मृताः ।
 स्वांलभृतिस्विता जुह्वाः स्युत्ये विकृताः स्वराः ॥

All this represents the universally accepted view, and we need hardly discuss it.

भुतिमाधादि तुर्याताः स्वरा ये चोर्ध्ववर्तिनः ।
 तीम्रस्तीनतरस्तीव्रतमा भवति हि क्रमात् ॥
 स्रोपांलभृतिवर्ती तु कोमलः परिग्रहीतः ।

Translation—The vikṛita swaras are produced when the shuddha swaras rise through one, two, three or four srutis. When the shuddha note rises one sruti, it becomes, tivra, when it rises two srutis it becomes tivratara, when it rises three srutis it becomes tivratama, when it is lowered one sruti, it becomes Komal.

Observation—The process is the same as described in the Koutuka. It is this process which distinguishes the northern music system from the southern. In the southern system the shuddha swara is the lowest position of the note and the vikṛitas are its higher positions. In the northern system, we have the vikṛitas on both sides of the shuddha note. In other words the shuddha note occupies the central position.

निस्तम्बतरसप्तस्तु कामडीलापि कथ्यते ॥
 सपयोर्येदि मृदुनीतनियस्त्रिभुतीर्नैर्मा ।
 मृदुमो मृदुपथेति तदाम्ये सपयोर्येते ॥

Translation.—The note tivratara nishada is also called Kakali; when the notes 'ni' and 'ma' take the three srutis of 'sa' and 'pa' respectively, they are called mridu 'sa' and mridu 'pa'.

The स्वर संज्ञा प्रकरण practically ends here. The author next explains the terms vadi, samvadi, anuvadi, and vivadi.

प्रयोगो बहुधा यस्य स स्याद्वादी नृपोपमः ।
ययोर्मवेयुः श्रुतयो द्वादशाष्टयवान्तरे ॥
मिथः संवादिनौ तौ स्तौ राज्ञः सचिवसन्निभौ ।
त्रिवादी रक्तिविच्छेदी शत्रुतुल्यः स कीर्तितः ॥
अनुवादी तटस्थो यः किंकरप्रतिमः स्वरः ।
सपौ रिधौ मध्यमसौ निगौ संवादिनो मिथः ॥

Translation.—The note most frequently used in a raga, which fit like the king of the raga, is called 'Vadi'. Samvadi stands at a distance of eight or twelve srutis from the vadi. It is like a minister to the raja of the raga. Vivadi destroys the beauty of the raga and is therefore called the enemy. Anuvadi is neutral, and is compared to the servant. The following pairs of notes are samvadis to each other. Sa, pa; ri, dha; ga, ni; and ma, sa;

Then we come to an important point and it is this :

द्वौ त्रयो वापि चत्वारः स्युस्ताना रंजकस्वराः ।
पंचाचैरथ रागः स त्रिधा पंचमिरौद्धवः ॥
षड्भिः स्वरैः पाडवः स्यात्संपूर्णः सप्तभिः स्वरैः ॥

Translation.—Combinations of two or three or four notes, will be only pleasing 'tan's, but no ragas. The ragas must have five six or seven notes. A raga with five notes, is 'odava', one with six is 'shadava' and one with seven is 'sampurna'.

Observation.—It is an accepted rule of Indian music that a raga should have at least five notes पंचनेम्यः स्वरैर्म्यञ्च नस्य । द्वागस्य संभवः । A tana may have any number of swaras.

Then follows the most important portion of the work, namely the location of swaras on the sounding wire of the vina. It will be useful to have the sruti swara chart before you in order to follow the details of the next few slokas.

ध्वन्यवच्छिन्नदीर्घायांमध्ये तारकसंस्थितिः ।
त्र्यंशिनस्याद्यभागाति मध्यमस्य च पंचमम् ॥

Translation—Exactly in the centre of the wire (that portion of the wire which is capable of producing sound) will stand the tara shadja. If the whole wire is divided into three equal parts, the panchama of the middle octave will stand at the end of the first part.

Observation—Supposing the whole length of the speaking wire of the vina to be thirty-six inches, then the Tara 'sa' will be eighteen inches from either end, the panchama will be 12 ins from the meru, and 24 ins from the 'ghodi' (bridge). The whole length will produce the fundamental note or *mandra* 'sa'.

मध्यम बद्धयोगेन सप्तमोर्म्यमानयेत् ।

अक्षिरस्य तयोर्मध्यस्थापान्ते तथासंमम् ॥

Translation—The maddhyama of the middle octave will be exactly between the two shadjas. The shuddha gandhara will stand exactly between 'sa' and 'pa'. If the distance between 'sa' and 'pa' be divided into three equal parts, then the shuddha rishabha, will stand at the end of the first part.

Observation—In the vina wire of thirty-six inches, therefore, the maddhyama of the middle octave will be at a distance of nine inches from the meru, and twenty-seven inches from the lower bridge or ghodi. The shuddha gandhara will stand exactly between 'sa' and 'pa', that is to say, it will be six inches from the meru and thirty-inches from the 'ghodi'. If the distance between 'sa' and 'pa', (which is twelve inches) be divided into three parts, the shuddha rishabha will be at the end of the first part. It will, therefore, be four inches distant from the meru and thirty-two inches from the "ghodi."

तर्ध्व भवतं मध्ये सप्तमो रथापरेदधुषः ।

तत्र मगदस्य त्यक्त्वा निवादाख्य स्वर नयेत् ॥

Translation—The shuddha dhavata ought to be placed in the interval between 'pa' and tara 'sa'. If the distance between the 'pa' and tara 'sa', be divided into three parts, the shuddha nishad will come at the end of the second part.

Observation—The description of the place of the dhavata, has led to some hot controversy among the scholars. No doubt the description at first sight appears somewhat loose, but the author furnishes the reader later on with the key to the difficulty. He says,

स्वर ज्ञान विद्विंश्यां शगोऽयं बोधितो मया ।

स्वरमश्रदिता ज्ञान स्वरस्थापनकामम् ॥

बद्धपञ्चममात्रेण बद्धमेवा. स्वगवुर्धः ॥

Translation.—The note tivratara nishada is also called Kakali; when the notes 'ni' and 'ma' take the three srutis of 'sa' and 'pa' respectively, they are called mridu 'sa' and mridu 'pa'.

The स्वर संज्ञा प्रकरण practically ends here. The author next explains the terms vadi, samvadi, anuvadi, and vivadi.

प्रयोगो बहुधा यस्य स स्याद्वादी नृपोपमः ।
ययामवेयुः श्रुतयो द्वादशाष्टाश्वान्तरे ॥
मिथः संवादिनौ तौ स्तौ राज्ञः सचिवसचिमां ।
त्रिवादी रक्तिविच्छेदी शत्रुतुल्यः स कीर्तितः ॥
अनुवादी तटस्थो यः किंकरप्रतिमः स्वरः ।
सयौ रिधौ मध्यमसौ निगौ संवादिनौ मिथः ॥

Translation.—The note most frequently used in a raga, which it like the king of the raga, is called 'Vadi'. Samvadi stands at a distance of eight or twelve srutis from the vadi. It is like a minister to the raja of the raga. Vivadi destroys the beauty of the raga and is therefore called the enemy. Anuvadi is neutral, and is compared to the servant. The following pairs of notes are samvadis to each other. Sa, pa; ri, dha; ga, ni; and ma, sa;

Then we come to an important point and it is this :

द्वौ त्रयो वापि चत्वारः स्युस्ताना रंजकस्वराः ।
पंचायैरथ रागः स त्रिधा पंचमिरौडवः ॥
षड्भिः स्वरैः पाडवः स्यात्संपूर्णः सप्तभिः स्वरैः ॥

Translation.—Combinations of two or three or four notes, will be only pleasing 'tan's, but no ragas. The ragas must have five six or seven notes. A raga with five notes, is 'odava', one with six is 'shadava' and one with seven is 'sampurna'.

Observation.—It is an accepted rule of Indian music that a raga should have at least five notes पंचोनेभ्यः स्वरैर्यश्च नस्य । द्वागस्य संभवः । A tana may have any number of swaras.

Then follows the most important portion of the work, namely the location of swaras on the sounding wire of the vina. It will be useful to have the sruti swara chart before you in order to follow the details of the next few slokas.

ध्वन्यवच्छिन्नवीणायांमध्ये तारकंसंस्थितिः ।
त्र्यंशिनस्याद्यभागाति मध्यमस्य च पंचमम् ॥

Translation—Exactly in the centre of the wire (that portion of the wire which is capable of producing sound) will stand the tara shadjā. If the whole wire is divided into three equal parts, the panchama of the middle octave will stand at the end of the first part.

Observation—Supposing the whole length of the speaking wire of the vina to be thirty-six inches, then the Tara 'sa' will be eighteen inches from either end, the pancham will be 12 ins from the meru, and 24 ins from the 'ghodi' (bridge). The whole length will produce the fundamental note or mandra 'sa'.

मध्यम षड्जयोगेन सपयोर्मध्यमानयेत् ।

स्थितस्य तयोर्मध्यस्यापाश्रान्ते तथारमम् ॥

Translation—The maddhyama of the middle octave will be exactly between the two shadjas. The shuddha gandhara will stand exactly between 'sa' and 'pa'. If the distance between 'sa' and 'pa' be divided into three equal parts, then the shuddha rishabha, will stand at the end of the first part.

Observation—In the vina wire of thirty-six inches, therefore, the maddhyama of the middle octave will be at a distance of nine inches from the meru, and twenty-seven inches from the lower bridge or ghodi. The shuddha gandhara will stand exactly between 'sa' and 'pa', that is to say, it will be six inches from the meru and thirty-inches from the ghodi. If the distance between 'sa' and 'pa', (which is twelve inches) be divided into three parts, the shuddha rishabha will be at the end of the first part. It will, therefore, be four inches distant from the meru and thirty-two inches from the "ghodi."

तथैव धैवतं मध्ये सपयोः स्थापयेदनुषः ।

तत्र मगद्वयं त्यक्त्वा निषादस्य स्वर नयेत् ॥

Translation—The shuddha dhanvata ought to be placed in the interval between 'pa' and tara 'sa'. If the distance between the 'pa' and tara 'sa', be divided into three parts, the shuddha nishad will come at the end of the second part.

Observation—The description of the place of the dhanvata, has led to some hot controversy among the scholars. No doubt the description at first sight appears somewhat loose, but the author furnishes the reader later on with the key to the difficulty. He says,

स्वर ज्ञान विद्विनेभ्यो मागोऽयं बोधितो मया ।

स्वरसंवादिता ज्ञाने स्वरस्थापनकारणम् ॥

षड्जपञ्चममावेन षड्जमेवा. स्वगुणैः ॥

Translation.—I have adopted this simple method of locating the swaras in the interests of those who have not a good swara-dhyana. The exact places of the swaras, have to be fixed with the help of सप्तवादिता गान. It must always be remembered that the swaras in my shadja grama (shuddha scale) must stand in samvadi relationship. He means to say that the swaras in the "uttarang" of the scale must be the samvadis or the fifths of those in the purvanga.)

Observation.—This explanation of the author easily solves the difficulty. The shuddha dhaivata which is to be placed between pan-chama and tara 'sa' will have to be so placed that it will stand as a proper samvadi or the fifth to the shuddha rishabha. The shuddha rishabha has already been definitely fixed and so there will be no difficulty in fixing the position of the shuddha dhaivata. The reason why the author could not fix the exact length of the wire for the dhaivata appears to be that he could not obtain a convenient division of the string for that swara. We see that he has adopted the simplest way of dividing the wire into two or three parts. Such a division would not have given him the right place of the shuddha dhaivata. He knew that his reader could easily determine the position of the dhaivata with the help of the shuddha rishabha, dhaivata being the samvadi of the rishabha.

The shuddha scale of Lochana and Hridaya may be correctly expressed in terms of the lengths of the speaking wire and in the number of comparative vibrations as follows.

Note	Length of the wire.	Comparative vibrations.
sa	36	240
ri	32	270
ga	30	288
ma	27	320
pa	24	360
dha	21½	405
ni	20	432
sa	18	480

This is exactly the modern Kafi Thata of the Hindusthani musicians. The author of Koutuka and Prakasha has laid the whole of the Indian Music loving world under obligation to him for this clear exposition of the scale. As I said, however, the great question remains whether he copied all this from the Sangeet Parijata of Ahobala Pandit. The Parijata is a much more elaborate treatise and strikes the reader as an older treatise than the Prakasha. But until, some conclusive evidence is forthcoming on the point, we may reserve our judgement.

daya deals with his vikṛta swaras in the following verses —

मागवयोदिते मध्ये मेरो कयमयन्त्रिनः ।
 मागद्वयोत्तरं मेरोः कुर्यात् कोमलस्त्वयम् ॥
 मरुध्वनयोर्मध्ये तत्रिगाधारमाचरेत् ।
 मागत्रयत्रिष्टेऽरेमत् तत्रिगाधारपद्मयोः ॥
 पूर्वमागोत्तरं मध्ये म तीव्रतरमाचरेत् ।
 मागत्रयान्विते मध्ये पञ्चमात्तरपद्मयोः ॥
 कोमलो ध्वनतः स्थायः पूर्वमागे मनीषिणि ।
 तथैव धस्योर्मध्ये मागत्रयमन्विते ।
 पूर्वमागद्वयादूर्ध्वं निषाद तत्रिगाचरेत् ॥

Translation — If the distance between the meru and the shuddha nishabha be divided into three parts the komal n will fall at the end of the second part. The tivra gandhara will come exactly between the meru and the shuddha dhaivata. If the distance between the tivra ga and tara sa be divided into three equal parts, the tivra tara ma will appear at the end of the first part. If the distance between pa and tara sa be divided into three parts, the komal dhaivata will stand at the end of the first part. If the distance between the dhaivata and the tara sa is divided into three parts, the tivra nishada will come at the end of the second part.

Observation — The placing of the shuddha swaras being satisfactorily effected by the author, it is needless to work out the exact places of his five vikṛta swaras here. It is a purely mathematical calculation.

Hridaya accepts the twelve Thatas of the Raga Tarangini and adds his own Hridayarama to them. But he arranges the Thatas in different groups according to the vikṛta swaras they contain. His classification is as follows —

Group No

- | | | |
|-----|---------------------------|--------------|
| (1) | शुद्धमेल..... | मेल नाम |
| (2) | एक विवर्तः द्वौ मेलौ । | (1) मर्लौ |
| | (a) गार्धारैकस्तीव्रतरः । | (2) कर्णाट |
| | (b) ध्रुवर्तककोमलः । | (3) मुरगार्ग |
| (3) | द्विविधः द्वौ मेलौ । | |
| | (a) कोमलैर्मध्यवर्तौ | (4) तौर्दी, |
| | (b) तीव्रगाधारनिषादौ | (5) वंदा |
| (4) | त्रिविधतामयो मेलः } | |

(a) गांधारमध्यमनिपादानां तीव्रतरत्वे । (6) इमनः

(b) गांधार धैवतनिपादानां तीव्रतरत्वे । (7) मेघ

(c) गांधारमध्यमनिपादानां तीव्रतरत्वे । (8) हृदयरमा

(5) चतुर्विंशतास्रयो मेलः ।

(a) तत्र ऋषभधैवतयोः कौमलत्वे
गांधारनिपादयो स्तीव्रतरत्वे । (9) गौरी

(b) गांधारस्यातितीव्रतमत्वे, मध्य-
मधैवतयोस्तीव्रतरत्वे, निपाद-
स्यकाकलीत्वे । (10) सारंग

(c) गांधार धैवतमध्यमानां तीव्र-
तरत्वे, निपादस्यकाकलीत्वे । (11) पूर्वा

(6) पंचविकृत एक मेलः ।
गमौ तीव्रतरौ यत्र रिषौ कौमलसंज्ञकौ ।
निपादः काकलीः पूर्णा धनाश्रीस्तत्र कीर्तिता ॥
(12) धनाश्री ।

दीपक.....Omitted

The author then classifies his janya ragas, under the groups according to their vikritas. In describing the lakshana (distinguishing feature) of each raga, he adds a short string of notes, something like the aroha-avaroha-swarup of the raga which is really very interesting. I have already said that in my Abhinava-raga-manjari, I have imitated this method of raga definition. The manjari deals with the modern Hindusthani ragas and naturally follows the modern raga rules. The janya ragas dealt with in the Prakasha, are the same as those given in the Hrdaya Koutuka.

THE SANGEETA PARIJATA

The next treatise we discuss is the Sangita Parijata of Ahobala. It is one of the most remarkable and popular works dealing with the northern or Hindustani system of music. It is a printed book now and a copy of it can be had anywhere at a very small cost. It is the opinion of some of our scholars that Ahobala was originally a southern pandit,

But the evidence for the date of the Sangita Parijata is not so clear. The first and most important evidence is that the book is mentioned in the Catalogue of the Library of the Northern Museum. The Catalogue of the Library of the Northern Museum is published in the book "The Catalogue of the Library of the Northern Museum" by the Northern Museum. The evidence is that the book was written by Pandit Dhanurpati, son of Pandit Dhanurpati, in the year 1719 A.D. I have myself seen a copy of the Sangita Parijata in the Northern Museum Library. The copy bears the seal of the Northern Museum Library. We know that Mahomed Shah was the Emperor of Delhi in the year 1719 A.D. Pandit Dhanurpati is quoted by Pandit Dhanurpati in his well-known work Sangita Anupam Vikram. Pandit Dhanurpati's father, was in the service of the Emperor Shah Jahan. Pandit Dhanurpati himself was in the service of Raja Anup Singh of Purnea who was a contemporary of Aurangzeb. There is reason to believe that Ahobala had some acquaintance with the famous southern treatise on Rasa Vilasita written by Somanatha in 1610 A.D. These facts would go to prove that the Sangita Parijata was written somewhere in the latter half of the 17th Century.

Like all other Sanskrit writers preceding him, Ahobala accepts the division of the scale into twenty-two Srutis, to which he gives the well-known ancient names, त्रिंशद्गुणः etc. The principle of locating the Shuddha Swaras on the srutis is the same as that followed by the ancient writers. It is this:

चतुर्विंशत्सुतुर्विंशद्गुणः पञ्चमस्यमर्षवर्गः ।
द्वेद्वे निषादगंधारी त्रिंशद्गुणमर्षवर्गः ॥

The Shuddha swara was represented always by the first Sruiti. In other words, the usual rule एते चतुर्विंशद्गुणः यानि स्वराणि चतुर्विंशद्गुणः । was faithfully followed by him. It will be seen presently that the Shuddha scale of the Sangita Parijata is identical with that of the Sangita Prakasha. It corresponds with our modern Kṛishṇa scale. Ahobala describes his Vikṛita Swaras in the following verse:

स्वरोन्मिषश्रुतिं यानि त्रिंशद्गुणं प्रयाग्यम् ।
स्वरोन्मिषश्रुती यानि तदा त्रिंशद्गुणं भवेत् ॥
स्वरोन्मिषश्रुती यानि तर्हि त्रिंशद्गुणं भवेत् ॥

चतस्रः श्रुतयो यस्मिन्नाधिकाः स्युर्बुदा स्वरः ॥

अतिर्ताव्रतमारुर्णा च प्राप्नोतीति जयुर्बुधाः ।

स्वरः पञ्चानिवृत्तः श्वेत्कोमलादिभिरीरितः ॥

एकश्रुतिपगित्यागान् स्वरः कोमलसंज्ञकः ।

* श्रुतिद्वयपरित्यागात्पूर्वशब्देन भण्यते ॥

Translation. When a note rises one sruti, it becomes tivra; when it rises two Srutis, it becomes tivra-tara; when it goes up three Srutis, it is called tivra-tama, and when it goes up four Srutis, it is called Ati-tivra-tama. When a note goes back (is lowered by one sruti) it becomes komala. When it is lowered two srutis, it becomes 'purva'.

Observation. This was also the process, described in the three treatises we discussed. Lochana and Hridaya say nothing about the 'purva' note.

Some of the ancient Sanskrit writers, give fanciful distinctions between the Sruti and the swara. But the distinction between them pointed out by Pandit Ahobala is by far the most reasonable. Ahobala says :—

श्रुतयः स्युः स्वराभिन्नाः श्रावणत्वेन हेतुना ।

अद्विकृष्टलिवत्तत्र भेदोक्तिः शास्त्रसंमता ॥

सर्वाश्च श्रुतयस्तत्तद्वागेषु स्वरता गताः ।

रागाहेतुत्वं एतासां श्रुति संज्ञैव संमता ॥

Translation. There is no essential difference between the Sruti and the Swara. Both are sounds capable of being heard. According to the Shastras, the distinction between them is something like that which exists between the snake and its coil, or between gold and the ornaments made out of it. All Srutis are capable of being used as swaras in the various Ragas. Sounds actually used in the Raga become swaras for that Raga. Those not so used remain srutis only.

Observation. He means to say that the swaras of one raga will again become srutis only when the Raga is changed, and a different set of Srutis is selected as Swaras for the new raga. The selection is always to be made from the twenty-two srutis into which the scale is divided. The following chart will show the places and the names of the different Shuddha and Vikrita swaras of the Sangita Parijata.

श्रुति नाव	शुद्ध स्वर स्थान	कोमल विहृत स्वरस्थान	तीक्ष्णविहृतस्वरस्थान
१ तीमा.....			तीम निषाद
२ कृष्णदीनी			तीमतर निषाद
३ मदा.....			तीमनम निषाद
४ छन्दोवती.....	वह्न		
५ दयावती		पूर्व कथम	
६ रजनी.....		कोमल कथम	
७ रजिष्ठा.....	कथम.....	पूर्व गंधार	
८ रंदा.....		कोमल गंधार	तीम कथम
९ कौपी.....	गंधार.....		तीमतर कथम
१० बजिष्ठा			तीम गंधार
११ प्रवारिणी			तीमतर गंधार
१२ प्रीति.....			तीमनम गंधार
१३ मार्जनी.....	मध्यम.....		अतिनीमनम गंधार
१४ क्षिती.....			तीम मध्यम
१५ रक्षा.....			तीमतर मध्यम
१६ मदीक्षिणी			तीमतम मध्यम
१७ आलापिनी	ध्रुवम		
१८ मदनी.....		पूर्व ध्रुव	
१९ रोहिणी.....		कोमल ध्रुव	
२० रम्या.....	ध्रुवम	पूर्व निषाद	
२१ उम्रा.....		कोमल निषाद	तीम ध्रुव
२२ क्षोभिणी.....	निषाद.....		तीमतर ध्रुव
२ तीमा.....			
	७ शुद्ध स्वराः	८ कोमल विहृता	१४ तीम विहृता. २१ स्वराः

It may be pointed out here that although Ahobala Pandit used twenty-nine swara names in his music system, in the descriptions of his ragas, he never used more than twelve swaras. A reference to the chart will show that many of his vikritas are only different names for the same sounds. He does not make any secret of it. He tells his readers what notes he would not use in his ragas. Thus.

पूर्वकोमलनैमिश्च तथा तीमतरमच ।

अतिनीमनमधैरव सर्वे रागा उदीरिताः ॥

किंच पूर्वं तथा तीम तीमतर च गच्छाम ।

तीव्रतमं तथा गं च मं च तीव्रं स्वरं तथा ॥
मं च तीव्रतमं धं च पूर्वाख्यं तीव्रसंज्ञितम् ।
तीव्रतरं निषादं च तीव्रतमं च निस्वरम् ॥
इत्येतांश्च दश त्यक्त्वा रागलक्षणधीरितम् ।

Translation.—In giving the 'laksanas' (definitions) of the Ragas, I have omitted the use of the following ten swaras :

(१) पूर्वं री (२) तीव्र री (३) तीव्रतर ग (४) तीव्रतम ग (५) तीव्र म (६) तीव्रतम म
(७) पूर्वं ध (८) तीव्र ध (९) तीव्रतर नि (१०) तीव्रतम नि ।

About the remaining twelve vikritas, he further points out.

ऋषमः शुद्ध एवासौ पूर्वं गांधार उच्यते ।
गांधार शुद्ध एवासौ रिस्तीव्रतर इष्यते ॥
अतितीव्रतमो गः स्थान्मध्यमः शुद्ध एवहि ।
धैवतः शुद्ध एवासौ निषादः पूर्वसंज्ञकः ॥
निषादः शुद्ध एवासौ धस्तीव्रतर इष्यते ॥

Translation.—Shuddha 'ri' is the same as Purva gandhara Shud-dha gandhara is no other than tivra-tara 'ri'; ati-tivra-tama 'ga' is shud-dha maddhyama itself. Shuddha dhaivat is purva nishada. Shuddha nishada and tivra-tara-dhaivata are one and the same.

Observation.—He means to say that these ten swara names disclose only five Swaras. Thus we have only seven vikritas left out of the twenty-two. Out of these seven again, Komal 'ga' and Komal 'ni' will have to go out. They correspond with tivra 'ri' and tivra 'dha' respectively which sounds are not to be used in any of the ragas at all. This leaves only five real vikritas. Ahobala thus uses twelve notes only in his raga descriptions.

The method of placing the shuddha and vikrita notes on the sounding wire of the Vina, or in other words the method of expressing the positions of the shuddha and Vikrita Swaras in terms of the lengths of the speaking wire of the vina is exactly the same as that used by Hridaya in his Hridaya Prakasha. We can therefore, safely say that the shuddha and vikrita swaras of Ahobala, are identically the same as those of Hridaya with this exception that Hridaya uses tivara-tara 'ga', tivra-tara 'ni' instead of Ahobala's tivra 'ga' and tivra 'ni'. The verses in which Ahobala describes the placing of his shuddha and vikrita notes are as under :—

ध्यन्यवच्छिन्नवीणायां मध्ये तारकसंस्थितः ।
उभयोः षड्जयोर्मध्ये मध्यमं स्वरमाचरेत् ॥
त्रिमागात्मकवीणायां पंचमः स्यात्तदग्रिमे ।

मपयोः पूर्वभागे च स्थापनीयांश्च रिक्ताः ॥
 षड्त्रयस्ययोर्मध्ये गार्धाराश्च स्थितिर्मेवेत् ।
 मपयोर्मध्येदेह तु ध्वनः स्वराभावेत् ॥
 तत्रावद्वयमन्याय विवादस्य स्थितिर्मेवेत् ॥
 इति शुद्धस्वराः ।

Then follow verses describing the Vikṛta Svaras. We need not go into those here. All this is found in the Hṛdaya Prakāśha, which we have already considered. The śuddha and Vikṛta Svaras of the Saṅgita Parijata may be expressed in comparative vibrational values thus

'sa' 240, 'ri' 270, 'ga' 288, 'ma' 320, 'pa' 360, 'dha' 405
 'ni' 432, 'ga' 480, Komal 'ri' 254 2/3, tivra 'ga' 301 17/43, Tivra
 'ma' 337 1/2, komal 'dha' 381 3/7, tivra 'ni' (301 17/43 X 3/2)

Ahobala does not classify his ragas under any particular Thātas, but his reference to some Thāta names here and there is enough to prove that in his time, the method of classifying Ragas under Thātas was common. He describes about 122 Ragas in the Pañjata. In the raga description he mentions in each case the note used in the raga, the aroha and avaroḥa the Graha and Nyāsa and also the Murchana. The Murchana in the Pañjata is nothing more than the first 'tana' of the 'swara-karana' given under each Raga. We shall speak of the Murchana when we examine Śrīnivāsa Paṇḍita's work Raga Tatva Vibodha. Śrī Nivāsa was a faithful follower of Ahobala.

The following Shlokas will give the reader a clear idea as to how Ahobala defines his Ragas in the Saṅgita Pañjata,

शुद्धमंडोद्भवः पूर्णो धैर्यतादिकमुत्तमः ।
 आगेदे गनिधयैः स्याद्रागः सैधवनामकः ॥
 आग्निहितस्वरपूर्वतः स्फुरितेन च होमितः ॥
 इति सैधवः

धमरिदमपपधधा । गनिधधपमपमागय
 रिना । धमरिदमगरिगपिमगरि । निनिध
 मपमगीर । पपमगगिगगगति ॥

इति स्वरकरणम् ॥

आगेदे रिधदीनास्वान्पूर्णाशुद्धस्वरैर्बुता ।
 गार्धारास्वरपूर्वा स्याद्वानाधर्मिष्यमन्तिधा ॥

इति धनार्धाः

गमपनिध । गिमनिधपम । गमपमगरि ।

five it is called 'ouduva'. The 'mela' has thus three varieties, or forms. Vikrita swaras also enter the construction of the Mela.

शुद्धसंपूर्णमेलस्य भेद एक उदाहृतः ।

तेनैकैकस्वस्यागात् षाडवः षड्विधो मतः ॥

पंचाधिकदशत्वं हि स्वरद्वयवियोगतः ।

Translation.—Shuddha sampurna mela has only one form. With one note omitted the 'mela' assumes six forms. With two notes omitted, it has fifteen varieties or forms.

Observation.—By dropping ni, dha, pa, ma, ga, re, one at a time, we get six 'shadava' varieties, and by dropping ni, dha; ni, pa; ni, ma; ni, ga; ni, re; dha, pa; dha, ma; dha, ga; dha, ri; pa, ma; etc., two at a time, we get fifteen 'ouduva' varieties.

A Raga is derived from the 'Mela' but has 'aroha' and 'avaroha'. Melas become Ragas themselves, as soon as you give them 'aroha' and 'avaroha'. By applying the principle of 'odavashadava-sampurna' to these arohas and Avarohas we can obtain 484 ragas from each Sampurna Mela. This is in fact the principle on which the Raga system of the Karnatic music is based.

We shall now briefly consider the function of the 'Murchhana' which seems to have played an important part in the production of the Raga. Ancient writers define Murchhana as follows :—

क्रमात्स्वराणां सप्तानामारोहश्चावरोहणम् ।

मूर्छनेत्युच्यते ग्रामद्वये ताः सप्त सप्त च ॥

रत्नाकरे ॥

In the time of Ahobala and Sri Nivasa, however, the definition seems to have undergone a slight modification. These authors define 'Murchhana' thus :—

आरोहश्चावरोहश्च स्वराणां जायते यदा ।

तां मूर्छनां तदा लोक आहुर्ग्रामाभ्यां बुधाः ॥

सप्तसंख्यायुतास्ताः स्युस्तासां नामानि वक्ष्येहम् ।

तत्र तूत्तरमंद्रास्यात् षड्जपूर्वकसंभवा ॥

द्वितीया रजनी प्रोक्ता निषादस्वरपूर्विका ।

धैवतादिस्वरोद्भूता तृतीया चोत्तरायता ॥

× × × ×

आरोहश्चावरोहश्च तथैव विकृतेष्वपि ।

मध्यपञ्चममगम्य तदूर्ध्वस्वरमात्रम् ।
 पूर्वैकैस्वर लक्ष्वाण्यमापेक्ष्यद्विरुद्धताम् ॥
 शुद्धास्तु यानि नामानि तान्येव निरुनेष्वपि ।
 तथापेक्ष्यपूर्वस्य भेदा स्वेया वर्नाभिभिः ॥

The original 'Murchhana' names were retained for those murch-
 hanas which took all the seven notes. There was only one 'grama' in
 use in the time of these writers. Ahobala distinctly says —

अथ ग्रामास्तयः श्रोत्रा स्वरमदोद्वरुणि ।
 षड्जमप्यमगधारमसामिन्त समन्विताः ॥
 मूर्च्छनाधारभूतान्ने षड्जग्रामाधिपूतम् ।
 गणा ग्रामद्वयान्यः ६० ६० पादितानि ॥
 गधारमप्यमग्रामात्रयोजनार्था मर्ता ।
 गधारमप्यमग्रामा यदि ज्ञात्वा षड्विती ।
 तर्हि तद्वक्षण श्रोत्रमर्थागीश्वरमात्रम् ॥

In the music systems of Ahobala and Sri Nivasa the Mela or
 Thata was merely a series of notes capable of producing "Ragas".

मेलः स्वरमयूहः स्वादागप्यजनशक्तिमात्रम् ।
 Mela assumed three different forms namely "odava" "shodava" and
 "sarpurna," because it had to produce three definite kinds of ragas
 The definition of the Mela says nothing of the Aroha and the Avaroha
 It was the 'murchhana' which brought these into the Mela. A raga
 necessarily required the aroha and the avaroha. Hence the presence
 of the murchhana was absolutely necessary for the production of the
 raga. In fact it stood midway between the mela and the raga. The
 mela remaining the same, it was quite possible to obtain different
 Ragas by a mere change of the 'murchhana'. Sri Nivasa says —

वारहेषु च पूर्णेषु मेलेषु षड्भेदः ।
 आरौहे चारौहे च सप्तभिर्भेदः ॥
 मूर्च्छनाभिर्दसमसा गन्धर्वभिर्भेदः ।
 न्यवरिषताः क्षुत्तिगन्धर्वभिर्भेदः ।
 रागा जयनिगन्धर्वभिर्भेदः ॥

These slokas mention various ways of producing Ragas from
 a Mela of given Swaras. The practical importance of the mela
 in the actual singing of a Raga will be more clearly understood if we
 examine one or two raga definitions of Smt. Sri Nivasa. But before we do
 it, it will be useful to know how a raga was sung in the time of the
 author. The author says —

आदाबुद्गृह्यते येन स तानोदग्राहसंज्ञकः ।

आद्यंतयोश्चानियमस्ताने यत्र प्रजायते ॥

स्थायी तानः स विज्ञेयो लक्ष्यलक्षणकोविदेः ।

संचारी तु स विज्ञेयः स्थाय्यागेहविमिश्रितः ॥

यंत्र रागस्य विश्रुतिः समाप्तिद्योतको हि सः ॥

Every Raga had four parts, namely 'udgraha' 'sthaiyi' 'sanchari', and 'muktayi'. 'Udgraha' was the first part with which the raga 'alapa' was commenced. We shall now examine one or two raga definitions :—

शुद्धमेलोद्भवः पूर्णो धैवतादिकमूर्छनः ।

आरोहे गनिवर्त्यः स्याद्रागःसंधवनामकः ॥

Translation.—The raga "Saindhava" is produced from the shud-dha thata. Its murchhana is Dhaivata and it drops the notes gandhara and nishada in the Aroha.

Observation.—What is the function of the Murchhana here, we ask? The answer will be found in the swara-karana given under the definition of the raga. It runs as follows :—

मपम गरिस निधधस । इत्युद्ग्राहः ।

धसरि इ० इ०

(This is really the 'murchhana' of dhaivata)

धसरिममगरिपण्मगरिनीधपमगरिरिगरि

सनिध धस । इति स्थायी ।

Then comes the third portion of the 'alapa' called 'sanchari', and last comes the 'muktayi'. This shows that in singing a raga practically the murchhana was nothing more than the first member of the Raga alapa. We shall take another example.

आरोहे रिधहीना स्यात्पूर्णा शुद्धस्वरैर्युता ।

गांधारस्वरपूर्वा स्याद्वनाश्रीर्मध्यमान्तका ॥

Translation.—The Raga "Dhanasri" is produced from the shud-dha swara thata. It drops 'ri' and 'dha' in the 'aroha' its murchhana is "gandharadika". The 'nyasa' or ending note is maddhyama.

Illustration ग म प नि स । रि स नि ध प म । ग म प म ग रि स । ग म प नि प नि स रि स नि ध प म । ग म प म प म ग म ग रि स । ग म ग म प नि प नि स ग म म ।

To sum up then, the Mela first laid down the right swaras with the right 'varjya-avarjya' rule for the raga intended to be sung. The

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'Murchhana' added the necessary aroha and avaroha, and thus produced the actual raga. The 'alapa' invariably started with the 'murchhana' determining the name of the Raga.

Later on it appears, the distinction between the mela and the Murchhana gradually disappeared and there was no restriction observed as to the 'udgraha' or the start. Murchhana then merely meant perhaps the Aroha and Avaroha of the raga and it always started from the shadja. In the Southern music system, even now, murchhana merely means the aroha and avaroha and nothing more. Its starting point is 'always the same as that of the *पञ्च* Mela, which therefore coincides with it. In the northern or Hindusthani system of the present day, the term murchhana has lost all its ancient significance. The murchhana coinciding with the mela became indistinguishable from it. The mela directly produces the raga by the process of aroha and avaroha, strangely enough some of our modern Mahomedan professional artists are known to use the term in the sense of a kind of 'gamaka' too. It will not be necessary to go into the raga-adhyaya of the Raga Tatva Vibodh, because there the author borrows the whole of his material from the Sangita Parijata. It is noteworthy that in the time of all these three or four authors that we discussed all music was based on the well-known twelve notes only. Sri Nivas emphatically disallows the use of the remaining ten srutis in the composition of the melas. He says:—

श्रुतयो द्वादशैवैवास्वस्थानतयोदिताः ।
तथोक्तमिति । सर्वो अस्वस्थानतयोदिसेत् ॥
न श्रुतिष्वस्वस्थानतयोदिताः ।
श्रुतयो द्वादशैवैवास्वस्थानतयोदिताः ॥

There were in his time it appears some Pandits, who talked of admitting twenty-four srutis into the scale, and with reference to them he says,—

चतुर्विंशती नराः श्रुतीनां नराः द्वादशांशवर्धिताः ।
चतुर्विंशतिः पञ्चमा युक्ता एव श्रुतिविनिर्णयः ॥
अन्यत्र च विद्वान् कुर्वन् श्रुतिष्वेव विभागतः ।
अन्यत्र च विद्वान् कुर्वन् श्रुतिष्वेव विभागतः ॥
एव श्रुतिष्वेव विभागतः श्रुतिष्वेव विभागतः ।
अन्यत्र च विद्वान् कुर्वन् श्रुतिष्वेव विभागतः ॥

He has no quarrel with these theories, but in his own system he never allowed more than twelve srutis in the composition of his melas as Swaras. He probably allowed the other srutis to come in occasionally as graces or ornamental Swaras in special cases.

आदाशुदगृह्यते येन स तानोदग्राहसंज्ञकः

आद्यंतयोश्चानियमस्तानि यत्र प्रजायते ।

स्थायी तानः स विज्ञेयो लक्ष्यलक्षणकोवि

संचारी तु स विज्ञेयः स्थाय्यागोहविमिश्रितः ॥

यत्र रागस्य विश्रांतिः समाप्तिद्योतको हि सः ॥

Every Raga had four parts, namely 'udgraha' 'sthayi' 'sanchari', and 'muktayi'. 'Udgraha' was the first part with which the raga 'alapa' was commenced. We shall now examine one or two raga definitions :—

शुद्धमेलोद्धवः पूर्णो धैवतादिकमूर्धनः ।

आरोहे गानिवर्ज्यः स्याद्रागः सैधवनामकः ॥

Translation.—The raga "Saindhava" is produced from the shud-dha thata. Its murchhana is Dhaivata and it drops the notes gandhara and nishada in the Aroha.

Observation.—What is the function of the Murchhana here, we ask? The answer will be found in the swara-karana given under the definition of the raga. It runs as follows :—

मपम गरिस निधधस । इत्युदग्राहः ।

धसरि इ० इ०

(This is really the 'murchhana' of dhaivata)

धसरिममगरिपिप्पमगरिस्तिनिधमगरिरिगरि

सनिध धस । इति स्थायी ।

Then comes the third portion of the 'alapa' called 'sanchari', and last comes the 'muktayi'. This shows that in singing a raga practically the murchhana was nothing more than the first member of the Raga alapa. We shall take another example.

आरोहे रिधहीना स्यात्पूर्णा शुद्धस्वरैर्युता ।

गांधारस्वरपूर्वा स्याद्धनाश्रीर्मध्यमान्तका ॥

Translation.—The Raga "Dhanasri" is produced from the shud-dha swara thata. It drops 'ri' and 'dha' in the 'aroha' its murchhana is "gandharadika". The 'nyasa' or ending note is maddhyama.

Illustration ग म प नि स । रि स नि ध प म । ग म प म ग रि स । ग म प नि प
नि स रि स नि ध प म । ग म प म प म ग म ग रि स । ग म ग म प नि प नि स ग म म ।

To sum up then, the Mela first laid down the right swaras with the right 'varjya-avarjya' rule for the raga intended to be sung. The

'Murchhana' added the necessary aroha and avaroḥa, and thus produced the actual raga. The 'alapa' invariably started with the 'murchhana' determining the name of the Raga.

Later on it appears, the distinction between the mela and the Murchhana gradually disappeared and there was no restriction observed as to the 'udgraha' or the start. Murchhana then merely meant perhaps the Aroha and Avaroha of the raga and it always started from the shadja. In the Southern music system, even now, murchhana merely means the aroha and avaroha and nothing more. Its starting point is always the same as that of the **पञ्च** Mela, which therefore coincides with it. In the northern or Hindusthani system of the present day, the term murchhana has lost all its ancient significance. The murchhana coinciding with the mela became indistinguishable from it. The mela directly produces the raga by the process of aroha and avaroha, strangely enough some of our modern Mahomedan professional artists are known to use the term in the sense of a kind of 'gamaka' too. It will not be necessary to go into the raga-adhyaya of the Raga Tatva Vibodh, because there the author borrows the whole of his material from the Sangita Parjanya. It is noteworthy that in the time of all these three or four authors that we discussed all music was based on the well-known twelve notes only. Sri Nivasa emphatically disallows the use of the remaining ten srutis in the composition of the melas. He says—

धृतयो द्वावर्षवन्तश्च स्वरस्थानतयोदिता ।
 तथोक्तवार्तिता । सर्वा अस्वरस्थानतयोदिताः ॥
 न धृत्यन्धस्वरान्पश्यन्तःप्राप्तमेलवान् ।
 यस्तदुदाहरणं रागाद्यन्वयतु भवास्तेन ॥

There were in his time it appears some Pandits, who talked of admitting twenty-four srutis into the scale, and with reference to them he says:—

शतुभिरेतौ सती प्रोक्ता गनी द्वाभ्याम्यवस्थितौ ।
 शतुभिः पयधा युता एव श्रुतिविनिर्णयः ॥
 अन्याश्च विहतान् कुर्यान् श्रुतिसिद्धिमागतः ।
 प्रत्यक्षमानमिदं हि शास्त्रबोधपटुमेव ॥
 एव चोभयपक्षसातमेवमुद्रवाः ।
 अनता अपि रागाः स्वर्गमष्टोदम्राग्नेमदतः ॥

He has no quarrel with these theories, but he never allowed more than twelve srutis in the melas as Swaras. He probably allowed the others occasionally as graces or ornamental Swaras.

SADRAGA — CHANDRODAYA

We shall now take up another group of Sanskrit treatises on Music. This group contains four works and the names of them are (1) Sadraga-Chandrodaya, (2) Raga Mala, (3) Raga Manjari and (4) Nartana-Nirnaya. We shall not discuss the last here, because the swara and raga chapters of that treatise, are the same as in the Raga Mala which we shall consider. The rest of the Nartana-Nirnaya deals with the art of dancing and falls beyond the scope of this paper. The author of the four treatises is Pundarika Vithala. He originally came from that part of India which is known as the Karnatik. It appears he came to the north and first settled in Khandesh. He describes his country and parentage in the concluding verse of the Sadraga Chandrodaya as follows:—

कर्णाटे शैवगंगाभिधनगनिकटे सासतूर्नह्यो यो ।
 ग्रामस्तत्राग्रज्यप्रवरसु निकराञ्जामदग्न्योऽस्तिवृक्षः ॥
 तत्र श्रीविठ्ठलायोऽभवदमितयशास्तदगुणाख्या तु तस्यै-
 तत्सूनो रागचंद्रोदय इति च मज्जन् कैराणां मुदेस्तु ॥

When the Pandit actually wrote his Sadraga-Chandrodaya he was in the service of Faruqui rulers of Khandesh. This appears from the opening verses of the work.

वंशः फारकिभूपतेः सुसरलो भूमारधारक्षमः ।
 श्रीमत् सदगुणिदानशूरविमलक्षमापालशाखानिधत् ।
 विख्यातो भुवि यत्र काव्यरसिकाः सत्कीर्तिवह्नीश्रिताः ।
 चित्रं संचरतीति विश्वमखिलं के वर्णयन्तीति तत् ॥
 तज्जः श्रीबुरहानखान चतुरः कामातुकारी वरः ।
 संगीतादिकलाप्रपूर्णविमलः साहित्यतेजोमयः ।
 दारिद्र्यांधतमश्च यश्च गुणिनां हंताष्टुदरैः करैः ।
 भूमौ फारकिभूपतीश तिलकश्चंद्रशिरं राजते ॥
 श्रीमदक्षिणादिङ्मुखस्य तिलके श्रीखानिदेशे शुभे ।
 नित्यंमोगवतीव भोगिवसती रम्या हृषर्वादिभिः ।
 अस्ति स्वस्तिकरी नरेंद्रनगरी त्वानंदवह्नीति या ।
 तत्र श्रीबुरहानखान नृपतिः संगीतमाकर्णयत् ॥

From these verses it appears that Pundarik Vithala was in the service of King Burhan Khan of Khandesh. Burhan Khan was the son of Taj Khan, the son of Muhammad Khan. Mr. Stanley Lane-Poole, in his work "The Muhammadan Dynasties" at pp. 315 says as follows:—

"Akbar took Burhanpur, the capital of Khandesh and received the homage of its king in 1562 A.D.; but Khandesh was not fully in-

incorporated in the Moghul empire until 1593 A.D. when Ashurgarh fell in a six months' siege."

This enables us to fix the date of Pundarik. Pundarik does not leave us in doubt as to his date at all. In his Raga Manjan he says,

श्रीमन्कण्ठपर्वतदीपश्चन्द्रावाचिराजेश्वरः ।
 तेजःपुञ्जमहाप्रतापनिष्ठो मातुः क्षिती राजने ॥
 तस्यापीदृगस्तदायतनयो बोरभिवीरेष्वरः ।
 क्षोणीमलमंडनो विजयने धूमज्जलसंघट्टः ॥
 सरयुं ह्रीं तनयौ प्रभूतविनयां युती महाधामिनी ।
 जाते पतिरमाभजौत्तकनक्षोणोपतः स्वो भुजो ॥
 मिहो माधवमानपूर्वपदार्थं संग्रामदक्षामूर्ता ।
 तेजत्यागमहस्रहस्तकनिर्ना श्रीमन्मूर्ध्नीश्वरः ॥
 अकवारूपधर्मो शक्तध्यातिमीमां ।
 धर्मागमनमभ्ये जगमो मध्यमंदः ।
 सफलनृपतितावदमूरी इमी ह्रीं ।
 जगनि जयनरीक्षो माधवानानिर्दिष्टः ॥

From this it appears that Pundarik was, when he wrote his Raga Manjan, in the service of the two brother princes Man Singh and Madhava Singh who were the feudatories of the Emperor Akbar. Pundarik was the contemporary of Akbar (1556-1605). It is possible when Khandesh was annexed about the year 1593, Pundarik lost his appointment and took service at the capital of Madhava Singh.

Here a question will arise. Was Pundarik a southern or a northern musician? There is no doubt he came originally from a part of the country where the prevailing music system was the Karnatik system. It is also true that in all the four books he wrote on Music, the shuddha scale on which he based his system was the Southern Mukhari or Kanakangi scale. But a careful study of his books will show that the music which he actually wrote upon was undoubtedly the northern music. In the Sadraga Chandrodoya, we do find the author dealing with Ragas, common to both the systems, but in the Raga Mala and the Raga Manjari, he clearly expounds the music of Upper India. We may safely, therefore, count Pundarik among our Northern authorities. His works are most clearly written. His poetry is charming. The shuddha scale he adopts in his books may be written thus सा री री (called shuddha ग) म प ध ध (called shuddha रि) म ।

This is the shuddha scale of the southern music even at the present day.

We shall now go into the subject matter of Pundarik Vithal's first book *Sadruga Chandrodaya*. The author begins by stating his srutis and swaras as follows:

द्वाविंशतिस्तीक्ष्णतराः क्रमेण ।
 नादं तु तावच्छ्रुतिता नयन्ति ॥
 कंठप्रदेशेऽप्यथ मूर्धदेशे ।
 द्वाविंशतिः स्युः श्रुतयस्तथैव ॥
 स्वराः श्रुतिभ्यः प्रभवन्ति ते तु ।
 षड्जादयः सप्त यथाक्रमेण ॥
 वेदाग्निपक्षाधिपयोधिवन्दि ।
 पक्षातिमश्रुत्यधिसंश्रिताः स्युः ॥
 षड्जामिधानस्तद्वृषमस्ततः स्यात् ।
 गांधारको मध्यमपंचमौ च ॥
 ततः परं धैवतको निषादः ।
 इति स्वराः सप्त मता मुनीन्द्रैः ॥

The Pandit in these verses accepts the ancient view that there are twenty-two sounds, rising one above the other, available in music and known as srutis. *Mandra maddhaya* and *tara* are the three seats of sound. Each of these has twenty two srutis. The distribution of the twenty-two srutis among the seven swaras is the same as that in the case of the ancient writers. The names of the swaras are :

षड्ज, कषम, गांधार, मध्यम, पंचम धैवत, निषाद

Their places among the srutis are not disputed because he accepts the usual rule that :—

चतुःश्रुतुःश्रुतुश्चैव षड्जमध्यमपंचमाः ।
 द्वे द्वे निषादगांधारौ निष्ठी कषमधैवतौ ॥

The shuddha swara stands as before on the last sruti. We know that all these facts were admitted by Lochana, Hridaya, Ahobala, and Srinivasa too. But it must be remembered that the system adopted by Pundarik has never to be confounded with that of the other four Pandits. The shuddha scale of Pundarik being the Southern, his system will have to be studied independently. The swara names and some of the technical terms will differ from those of the northern system. Thus:

शुद्धाः स्वरा य तु भवन्ति सप्त ।
 तज्ज्ञान् विकारान् प्रवदामि सप्त ॥

श्रोतान्तिष्ठन्नु त्वविमर्शितः स्वात् ।
 षड्जमिधानो लघुषड्जनामा ॥
 एव यौ सो लघुषड्जद्वयौ ।
 साधारणो गः प्रथमध्रुतिरयः ॥
 तस्य द्वितीयध्रुतिर्गोऽन्तरः स्वात् ।
 षड्जाम्पस्य प्रथमध्रुतिरयः ॥
 तथा द्वितीयध्रुतिर्वेगमानो ।
 निःकेशिकी काकलीनामधेयः ॥
 स्वरश्चानकस्तेषु च तेषु मेधाः ।
 स्वरेषु मेधा विहता ध्वनीभिः ॥

Translation—There are first of all the seven shudha swaras I shall explain next the seven vikrita swaras. When shadja stands on its penultimate or the third sruti, it is called 'laghu-shadja'. Similarly 'ma' and 'pa' standing on their penultimate srutis would be called 'laghu-ma' and 'laghu-pa'. When 'ga' stands on the first sruti of 'ma', it is called 'sadharaṇa-ga' and when M stands on the second sruti of 'ma', it is called 'antar-ga'; when nishada stands on the first sruti of 'sa' it is "kaishiki-ni", and when it stands on the second sruti of 'sa', it is called "kakali-ni". When the swaras stand on their proper places or srutis, they are supposed to be shuddha swaras only.

From these verses it will clearly appear that in the music system expounded in the Sadraga Chandrodaya, there will be seven shuddha swaras and seven vikrita swaras. The names of the seven vikrita swaras are as disclosed in the verses, are

(१) लघु षड्ज (२) लघु मध्यम (३) लघु पञ्चम (४) साधारण गंधार (५) अन्तर गंधार
 (६) कैशिकिनि (७) काकलीनि.

Their places among the srutis, will enable us to see that they will correspond with our present Hindusthani swaras bearing the following names —

नीमनय नि, तीमनय न, तीमनय म, कोमल ग, नीम ग, कोमल रि, तीम रि.

Our modern komal 'ga' and komal 'ni', as we saw, were the shuddha 'ga' and shuddha 'ni' of Lochana, Hrdaya, Ahobala, and Snnavasa, and our shuddha 'ga' and shuddha 'ni', (which we call tivra 'ga' and tivra 'ni') were the tivratara 'ga' 'ni' of those writers.

I have already said that the shuddha scale of the Sadraga Chandrodaya is the same as the shuddha scale of the southern system. We may conveniently compare it with our modern Hindustani shuddha scales and also with the shuddha scale of Lochana, and Ahobala as follows :—

SHUDDHA SWARAS

Pundarika	Hindustani	Lochana	European
(१) शुद्ध षड्ज	शुद्ध षड्ज	शुद्ध षड्ज	C
(२) शुद्ध ऋषभ	कोमल ऋषभ	कोमल ऋषभ	D [♭]
(३) शुद्ध गांधार	तीव्र ऋषभ	शुद्ध ऋषभ	D
(४) शुद्ध मध्यम	शुद्ध मध्यम	शुद्ध मध्यम	F
(५) शुद्ध पंचम	शुद्ध पंचम	शुद्ध पंचम	G
(६) शुद्ध धैवत	कोमल धैवत	कोमल धैवत	A [♭]
(७) शुद्ध निषाद	तीव्र धैवत	शुद्ध धैवत	A

VIKRITA SWARAS

(१) लघु षड्ज	तीव्रतम निषाद	तीव्रतम निषाद	
(२) लघु मध्यम	तीव्रतम गांधार	तीव्रतम गांधार	
(३) लघु पंचम	तीव्रतम मध्यम	तीव्रतम मध्यम	F
(४) साधारण गांधार	कोमल गांधार	शुद्ध गांधार	E [♭]
(५) अंतर गांधार	तीव्र गांधार	तीव्रतर गांधार	E
(६) कैश्फ निषाद	कोमल निषाद	शुद्ध निषाद	B [♭]
(७) काकली निषाद	तीव्र निषाद	तीव्रतर निषाद	B

N. B.—The positions of these swaras will explain themselves better when we examine their places on the vina frets.

The Vina of Pundarika was almost the same as our modern Vina, the wires and frets on both being placed and tuned alike. In the following verses, Pundarika describes the way he tuned the wires of his vina and placed his frets under them :—

लक्ष्यप्रवीणेन विनिर्मितायां ।
सुवीणि कायामुपरि प्रदेयाः ॥
तन्व्यश्चतस्रोऽथ स एव पार्श्वे ।
ऽथो दक्षिणे तिस्र इमा निवेश्याः ॥
पुरोदितानामुपरिस्थितानां ।
वामप्रदेशाश्रितपूर्वतन्व्याम् ॥
षड्जं विदध्यादणुमंद्रसंज्ञं ।
द्वितीयतन्व्यामणुमंद्रपं च ॥
तृतीयतन्व्यामपि मंद्रषड्जं ।
चतुर्थतन्व्यामथ मंद्रमाख्यम् ॥
त्रितंत्रिकाणामधराश्रितानां ।

मापा तु मध्यस्थितवद्भवेन ॥
 तंती समानधु निरुपितव्या ।
 द्वितीयिका मद्रक्चपेन तद्रु ॥
 तानीयिका मद्रक्चद्भवेन ।
 निरुपितव्याः स्युः धुतिनामधेयाः ॥

This is exactly how our modern musicians tune the wires of their vina. Some of our players put anumandra 'ga' on the first wire in the place of the ancient anumandra 'sa'. The three side wires were then called srutis. We now call them "chukans". Their tuning is immaterial for our purpose here.

सारीनिवेद्यन्म् । (The placing the frets)
 आपानुमद्राद्भवेन तन्वा ।
 शुद्धो यथा स्यादुपमस्तथापा ॥
 सारी निवेद्येत तथा द्वितीया ।
 तन्वा तथा शुद्धगमिद्विहोः ॥
 सारं तृतीयापि तथैव तन्वा ।
 धीयेत साधारणस्य त्रिभ्ये ॥
 सारी चतुर्थी लघुमध्यमस्य ।
 त्रिभ्ये तथा तथैव तथैव ॥
 तन्वा तथैव पञ्चमसारिका च ।
 निधीयते शुद्धमपाधनाय ॥
 सारी निवेद्या च तथैव षष्ठी ।
 तन्वा तथैव लघुपादवाय ॥

The purport of these verses can be best followed with the help of the following vina chart

मद्रक्चपेन चतुर्थी	मद्र सा तथैव तृतीया	अनुमद्रं च तथैव द्वितीया	अनुमद्र सा तथैव प्रथमा
(१) सारी	मद्र शुद्ध म	मद्र शुद्ध सा	अनुमद्र प
(२) "	" लघु प	" शुद्ध ऋषभ	" अनुमद्र सा मद्र
(३) "	" शुद्ध प	" शुद्ध गांधार	" मद्र शुद्ध ऋषभ
(४) "	" शुद्ध ध	" साधारण ग	" शुद्ध गांधार
(५) "	" शुद्ध नि	" लघु म	" गांधारण गांधार
(६) "	" कं० नि	" लघु सा	" लघु मध्यम
(७) "	" लघु सा	" शुद्ध म	" लघु मध्यम
			" लघु पञ्चम

Here a question will naturally be asked —Where are the frets for antara 'ga' and kakali 'ni' which two notes are also recognised by Pundanka among his vikritas? In fact without them, there would be only five vikritas and not seven. The author anticipates the question and answers it thus —

SHUDDHA SWARAS

Pundarika	Hindustani	Lochana	European
(१) शुद्ध षड्ज	शुद्ध षड्ज	शुद्ध षड्ज	C
(२) शुद्ध ऋषभ	कोमल ऋषभ	कोमल ऋषभ	D [♭]
(३) शुद्ध गांधार	तीव्र ऋषभ	शुद्ध ऋषभ	D
(४) शुद्ध मध्यम	शुद्ध मध्यम	शुद्ध मध्यम	F
(५) शुद्ध पंचम	शुद्ध पंचम	शुद्ध पंचम	G
(६) शुद्ध धैवत	कोमल धैवत	कोमल धैवत	A [♭]
(७) शुद्ध निषाद	तीव्र धैवत	शुद्ध धैवत	A

VIKRITA SWARAS

(१) लघु षड्ज	तीव्रतम निषाद	तीव्रतम निषाद	
(२) लघु मध्यम	तीव्रतम गांधार	तीव्रतम गांधार	
(३) लघु पंचम	तीव्रतम मध्यम	तीव्रतम मध्यम	F
(४) साधारण गांधार	कोमल गांधार	शुद्ध गांधार	E [♭]
(५) अंतर गांधार	तीव्र गांधार	तीव्रतर गांधार	E
(६) कैशिक निषाद	कोमल निषाद	शुद्ध निषाद	B [♭]
(७) काकली निषाद	तीव्र निषाद	तीव्रतर निषाद	B

N. B.—The positions of these swaras will explain themselves better when we examine their places on the vina frets.

The Vina of Pundarika was almost the same as our modern Vina, the wires and frets on both being placed and tuned alike. In the following verses, Pundarika describes the way he tuned the wires of his vina and placed his frets under them :—

लक्ष्यप्रवीणेन विनिर्मितायां ।
सुवीणि कायामुपरि प्रदेयाः ॥
तंभ्यश्चतस्रोऽथ स एव पार्श्वे ।
ऽधो दक्षिणे तिस्र इमा निवेश्याः ॥
पुरोदितानामुपरिस्थितानां ।
नाभप्रदेशाश्रितपूर्वतंभ्याम् ॥
षड्जं विदध्यादधुमद्रसंज्ञं ।
द्वितीयतंभ्यामधुमद्रपं च ॥
तृतीयतंभ्यामपि मंद्रषड्जं ।
चतुर्थतंभ्यामथ मंद्रमास्थ्यम् ॥
त्रितंत्रिकाणामधराश्रितानां ।

मापा तु मय्यस्थितपद्मकेन ॥
 तन्त्री समानसु निरोधितव्या ।
 द्वितीयिका मद्रकपेन तद्वत् ॥
 तानीयिका मद्रकपद्मकेन ।
 तिस्रोऽङ्गमूः स्युः सुतिनामधेयाः ॥

This is exactly how our modern musicians tune the wires of their
 vina Some of our players put anumandra 'ga' on the first wire in the
 place of the ancient anumandra 'sa' The three side wires were then
 called srutis We now call them "chukans" Their tuning is immaterial
 for our purpose here

सारीनिवेशनम् । (The placing the frets)

आपातुमद्राद्ध्यवर्जितव्या ।
 शुद्धो यथा स्यादृषमस्तथापा ॥
 सारी निवेशयेत् तथा द्वितीया ।
 तस्या तथा शुद्धगमिद्विहेतोः ॥
 सारी तृतीयापि तथैव तस्या ।
 घोषेत् साधारणस्य तिथ्यै ॥
 सारी चतुर्थी लघुमध्यमस्य ।
 तिथ्यै तथा तन्धिकया तथैव ॥
 तस्या तथैव पचमसारिवा च ।
 निर्धारयेत् शुद्धममाधनाय ॥
 सारी निवेशया च तथैव षष्ठी ।
 तस्या तथैव लघुपाण्ड्याय ॥

The purport of these verses can be best followed with the help
 of the following vina chart

मन्द्रमत्तर्था चतुर्थी	मद्र सा तन्त्री तृतीया अशुमन्द्र प तन्त्री द्वितीया अशुमन्द्र सा तथी प्रथमा
(१) सारी	मद्र शुद्ध म
(२) "	मद्र शुद्ध सा
(३) "	अशुमन्द्र प
(४) "	अशुमन्द्र सा मन्द्र
(५) "	मद्र शुद्ध कवम
(६) "	मद्र शुद्ध धैवत
(७) "	मद्र शुद्ध निषाद
(८) "	मद्र गांधार
(९) "	साधारण ग
(१०) "	कैसिकानि
(११) "	साधारण गांधार
(१२) "	लघु म
(१३) "	लघु मा
(१४) "	लघु मध्यम
(१५) "	लघु पचम
(१६) "	लघु सा

Here a question will naturally be asked — Where are the frets
 for antara 'ga' and kakah 'ni' which two notes are also recognised by
 Pundanka among his vikritas? In fact without them, there would be
 only five vikritas and not seven The author anticipates the question
 and answers it thus —

चतुर्दशोक्ता ननु पूर्वमेते ।
 स्वरास्ततो द्वादशसंख्यकानाम् ॥
 सारोनिवेशः क्रियते भवद्भिः ।
 कुतोऽन्तरे काकलिनि द्वयोर्न ॥
 अत्रोच्यते काकलिनोऽन्तरस्य ।
 मन्तौ प्रयुज्ये यदि सारि के द्वे ॥
 संकीर्णमावाच तदातुकूल्यं ।
 स्याद्वादनेऽतो न कृते पृथग् द्वे ॥
 तयोः समुत्पात्तिरुदीर्यते तु ।
 चेत् प्रस्तुतस्तत्सहितोऽपि रागः ॥
 लघ्वाख्ययोः षड्जमयोश्च सायौ ।
 स्यातां यदैकैकश्च तेर्विहीनौ ॥
 तदाच काकल्यभिधातरो स्तः ।
 किंत्वत्र सूक्ष्मध्वनिभेदविज्ञाः ॥
 लघ्वादिकं सं लघुमध्यमं च ।
 तत्प्रातिनिध्येन वदन्ति लक्ष्ये ॥

He says he deliberately omits these two frets because these frets coming too close to those of 'laghu-sa' and 'laghu-ma' would make play inconvenient. If, however, there are any ragas which require those two notes, those well versed in the shastra of music would allow these two notes to be represented by the higher notes laghu-sa and laghu-ma. The difference of one sruti will not make much of a difference in the general effect of the raga.

Observation.—This also shows that Pundarika was aware of the northern practice of expressing ragas in terms only of twelve notes.

We shall now proceed to the nineteen thatas under which Pundarika classifies his ragas.

तत्राद्यमेलस्तु मुखारिकायाः ।
 ततो भवेन्मालवगौडमेलः ॥
 श्रृंगारमेलस्तदनन्तरं स्यात् ।
 स्याच्छुद्धनट्टावहयकस्य मेलः ॥
 देशाग्निकाया अपि मेलकः स्यात् ।
 कर्णाटिगौडस्य भवेत् सुसलः ॥
 केदारकाख्यस्य भवेत् सुमेलः ।
 हिजेजमेलोऽपि हर्मारमेलः ॥
 कामोदरागासिधस्य मेलः ।
 ततः सुतोड्यावहयकस्य मेलः ॥
 आभीरिकायाः सुमतश्च मेलः ।
 मेलो भवेत् शुद्धवराटिकायाः ॥
 स्याच्छुद्ध रामत्रयसिधस्य मेलः ।
 देवक्रियायाश्च भवेत् मेलः ॥
 सारंगमेलस्तदनन्तरं स्यात् ।
 कल्याणमेलस्तु ततः परं स्यात् ॥

हिंदोलगास्य भवेनु मेलः ।

स्यान्नादरागमयमिधस्य मेलः ॥

हर्नगितास्ते नवचंद्रमस्या ।

एव परस्तात् कलयतु प्रज्ञाः ॥

These may be written with their respective swaras as follows—

These may be written with their respective swaras as follows :

घाट नाम	सा	री	ग	म	प	ध	नि	Hindustani Equivalents
१ मृसाहि	सा	शुद्ध	शुद्ध	शुद्ध	शुद्ध	शुद्ध	शुद्ध	सा री री म प ध ध सा
२ मालव गौड	सा	"	लघु म	"	"	"	शुद्ध	सा री री म प ध ध सा
३ धी	सा	धनुः	साधारण	"	"	धनुः	लघु सा	सा री ग म प ध नि सा
४ शुद्ध नाट	सा	त्रिधु. म	लघु म	"	"	धुनि	केशिक	सा री ग म प ध नि सा
५ देशाक्षी	सा	"	"	"	"	त्रिधु. नि	लघु मा	सा री ग म प ध नि सा
६ कर्णाट गौड	सा	"	"	"	"	शुद्ध नि	"	सा ग म प ध नि नि मा
७ केदार	सा	शुद्ध ग	"	"	"	"	त्रिधुति	सा ग म प ध नि मा
८ हिजेज	सा	शुद्ध	"	"	"	"	लघु सा	सा री ग म प ध नि मा
९ हमा	सा	शुद्ध ग	"	"	"	शुद्ध नि	केशिक	सा री ग म प ध नि सा
१० कामोद	सा	शुद्ध	त्रिधुनि	लघु प	"	शुद्ध	लघु मा	सा री ग म प ध नि सा
११ तौडी	सा	"	साधारण	शुद्ध	"	"	त्रिधुति	सा री ग म प ध नि मा
१२ आसीरी	सा	शुद्ध ग	"	"	"	केशिक	सा री ग म प ध नि सा	
१३ शुद्ध वराही	सा	शुद्ध	शुद्ध	लघु प	"	"	लघु मा	सा री ग म प ध नि मा
१४ शुद्ध रामकी	सा	"	लघु म	लघु प	"	"	लघु मा	सा री री म प ध नि मा
१५ देवकी	सा	"	"	"	"	"	"	सा री ग म प ध नि सा
१६ सारंग	सा	शुद्ध ग	लघु प	"	शुद्ध नि	लघु मा	"	Doubtful.
१७ कल्याण	सा	"	साधारण	लघु प	"	केशिक	सा री म म प ध नि नि सा	
१८ हिंदोल	सा	शुद्ध	त्रिधुति	शुद्ध	"	लघु सा	सा री ग म प ध नि मा	
१९ नाद रामकी	सा	"	साधारण	"	"	त्रिधुति	सा री ग म प ध नि मा	
			"	"	"	नि	सा री ग म प ध नि मा	
			"	"	"	लघु सा	सा री ग म प ध नि मा	

*शुद्धां समी शुद्धपनी तमेव लघुदिकीं पद्विद्वपधमं पचमुनिमं यदा मनेव देविकं

Pundarik

*शुद्धा समी शुद्धपनी तयैव लज्जदिर्दो वद्वरूपधर्मा व ।
पञ्चमुनिर्मथ यदा भवेनु देवक्रियाया कथितः स मेलः ॥

Explanatory note

Pundanka's notes—Hindustani Notes Hindustani Notation signs

शुद्ध रि, शुद्ध ध = कोमल रि, कोमल ध
धनुःधुति रि, धनुःधुति ध = तीव्र रि, तीव्र ध
शुद्ध ग, शुद्ध नि = तीव्र रि, तीव्र ध
साधारण ग = कोमल ग
केशिक नि = कोमल नि
लघु सा, लघु म, लघु प = तीव्र नि, तीव्र ग, तीव्र म

जन्यजनक राग व्यवस्था—चंद्रोदये ।

मूल नाम	जन्य रागाः
१ गुप्तारी	१ मन्गरी
२ मालवगौड	१ मालव, २ गौडकृति, ३ गुजरी, ४ टफ, ५ पाडी, ६ कुरंजी, ७ बहुली, ८ पूर्वी, ९ रामक्री, १० द्रविड गौड, ११ गौडी, १२ वंगाल, १३ आसावरी, १४ पंचम, १५ रेवगुप्ती, १६ प्रथम मंजरी, १७ कर्णाट बंगाल, १८ शुद्ध ललित, १९ शुद्ध गौड, २० देवगांधार, २१ मारवा ।
३ श्रीराग	१ श्रीराग, २ मालवश्री, ३ धनाश्री, ४ भैरवी, ५ सैधवी ।
४ शुद्धनाट	१ शुद्धनाट ।
५ देशाक्षी	१ देशाक्षी ।
६ कर्णाट गौड	१ कर्णाट, २ तुरष्कतोडी, ३ शुद्धबंगाल, ४ छायानट, ५ सामंत ।
७ केदार	१ केदार, २ नारायण गौड, ३ वेलवली, ४ शंकराभरण, ५ नटनारायण ६ मध्यमादि, ७ मझार, ८ गौड, ९ सारंगनाट, १० भूपाली, ११, सावैरी, १२ सौराष्ट्री, १३ कामोजी ।
८ हिजेज	१ हिजेज ।
९ हमीरनाट	१ हमीरनाट ।
१० कामोद	१ कामोद ।
११ तोड़ी	१ तोड़ी ।
१२ जामीरी	१ जामीरी ।
१३ शुद्धवराटी	१ शुद्धवराटी, २ सामवराटी ।
१४ शुद्धरामक्री	१ शुद्धरामक्री, २ त्रावणी, ३ देशी, ४ ललित ।
१५ देवक्री	१ देवक्री ।
१६ सारंग	१ सारंग ।
१७ कल्याण	१ कल्याण ।
१८ हिंदोल	१ हिंदोल ।
१९ नादरामक्री	१ नादरामक्री ।

We shall not go into the definitions of these Janya Ragas here.

The Hindustani musician will find this classification very interesting. He will find many of his own ragas in the list. Some of these latter seem to have retained their original swaras to this day. The book therefore, is supposed to be of great historical importance.

RAGMALA

This is another treatise by Pundanka Vithala. It deals with the Northern system of Music proper. Here too the author builds up his Raga system on the Southern Shuddha scale.

सा गी (म प ध स).

We know that was also the shuddha scale of the Sadraga-Chandrodaya. The names of the vikṛta swaras here are not those of the Chandrodaya. The ragas again are divided into three classes, namely 'puruṣa' ragas, 'stree' ragas, and 'putra' ragas. This is supposed to be the genuine northern style of Raga classification.

After mentioning the three seats of sound 'mandra' madhya and 'tara', Pundarik says —

यन्नेऽनुमदस्थान स्याद्रागके तदक्षरवत् ।
मन्त्रादेरितर्यं स्थानं व्यवहृतिमिधीयते ॥

The sruti is distinguished from the swara in the usual way

इतिः श्रुतिस्ततो लभज्जातोऽनुगुणचरिः ।
माविदीतः श्रोतृविषं स्वतो रज्यति स्वर ॥

It is worth noting that in the time of Pundanka, as also in that of Hrdaya, Ahobala, and Srinivasa, there was only one 'grama' in use and that was the shadja-grama. All ancient writers were agreed that the shuddha scale commencing with shadja was the shadja-grama. The shadja-grama of Lochana was our modern Kafi thata. Pundarika's shadja-grama was the southern shuddha scale mentioned above. The author accepts the old twenty-two srutis, and their distribution among the swaras.

द्वविंशतिः श्रोतरथानं श्रोतानाकारवत् मन्त्रात् ।

× × ×
प्रमत्तयुधोद्यताः श्रुतयः ध्यायमावृतः ॥
रागादिभ्यवहाराय तासु सप्त स्वरा स्थिताः ।
पञ्चमं नृपमर्थैव गीषाति मन्त्रमस्तथा ॥
पञ्चमो धैवतमाथ निवाद्येदनुक्रमार्त् ।
तथा संज्ञाः सरिगमपधनीन्यपत्ता मन्त्राः ॥
वेदाचलकधृतिषु त्रयोदश्यां श्रुती तथा ।
सप्तदश्यां च विद्यां च द्वविंशत्यां च धुनी क्रमार्त् ॥
पञ्चादीनां स्थितिः श्रोता प्रथमा मन्त्रादिभिः ॥

The word "sthiti" in the last line has to be carefully noted. Pundanka means by it the original or shuddha place of the swara. He uses the word in contradistinction to the word "gati", by which he means the vikṛti of the note. When a swara becomes vikṛta, it leaves its original place or "sthiti" and moves. Thus the word "gati" happily represents the idea of change. The shuddha scale being southern, the vikṛtis of the swaras will necessarily be the higher "gati" of the

shuddha swara. Each "gati", will be measured by a sruti. For instance, gandhara rising one sruti will be called "trigatika", when it rises two srutis, it will be supposed to have gone up two "gatis" and so forth. The shuddha place of the gandhara, is as we know, two srutis above the shuddha rishabha.

असपाः पूर्वपूर्वास्ते संचरंत्युत्तरोत्तरम् ।

त्रिखिर्गतीस्ते प्रत्येकं याति गश्च चतुर्गतीः ॥

Translation.—All swaras with the exception of sa and pa, will be allowed to rise up to three "gatis" or srutis. The gandhara alone will be permitted to go up to the fourth sruti of the next note maddhyama.

यद्यद्रागोपयोगः स्यात्तत्तदिच्छागतिर्मवेत् ।

गन्धोर्गती द्वितीये चांतरकाकलिनौ स्मृतौ ॥

पंचम्यष्टादशी षष्ठी तथा चौकोनविंशतिः ।

चतस्रः श्रुतयश्चैता रागाच्चैरप्रयोजकाः ॥

शेषा अष्टादशैव स्युः श्रुतयः स्वरबोधकाः ।

न्यूनाधिकैकगतिंका मंद्रतारस्वरा यदि ।

न रागहानिकाः सर्वे स्पष्टता मध्यसप्तके ॥

Translation.—The use of the "gatis" will naturally depend upon the nature of the raga proposed to be sung or played. The second "gatis" of gandhara and nishada have special names, namely "antar-gandhara" and "kakali-nishada". These names will be used whenever the ga and ni rise two srutis. The srutis fifth, sixth, eighteenth and nineteenth will never be used in any raga at all. Barring these four, the remaining eighteen will be allowed to be so used. The rise or fall by one sruti only in the mandra and tara octaves, could safely be neglected. It will not destroy the general effect of a raga. In the maddhya octave, however, it will be proper to use the prescribed sruti-swara.

Observation.—The srutis five, six, eighteen, and nineteen are barred because in the southern scale, the shuddha ri and shuddha dha are supposed to be the lowest sounds of those notes. Ri and dha when shuddha, are always three sruti notes. No swaras therefore, are allowed between sa and shuddha ri and pa and shuddha dha. The provision in the last verse is intended to avoid the difficulty of having a four sruti note and a three sruti note standing on the same fret of the vina in samvadi relationship. We find a similar provision in the Raga Vibodha of Somnath.

Pundarika being a southern Pandit may have read the Swara Mala Kalanidhi of Ramamatya and the Raga Vibodha of Somnath.

The following chart will show at a glance the places and the names of the shuddha-vikrita swaras of the Raga Mala.

श्रुति नाम	शुद्ध स्वर स्थिति	विकृत स्वर गति	प्रस्तुत हिन्दुस्थानी स्वर नाम
१. तीमा	...	एकगणित नि	कोमल निषाद (Southern कैथिक नि)
२. कुमुदती	...	द्विगणित नि	तीव्र निषाद (Southern काकली नि)
३. मंदा	...	त्रिगणित नि	(तीव्रतम नि)
४. उदोवती	शुद्ध वद्ज	...	शुद्ध वद्ज
५. दयावती	...	...	Not to be used
६. रजनी	...	...	Not to be used
७. रसिका	शुद्ध कृष्णम	...	According to Pun- danka अपयोजकः
८. रीषी	...	...	कोमल कृष्णम
९. कोषी	शुद्ध गांधार	प्रथम एक गतिकरि	तीव्र कृष्णम (Southern चतुःश्रुतिक रि=
१०. वसिका	...	द्विगणित रि	कोमल गांधार " पंचश्रुतिरि)
११. प्रमारिणी	...	एकगणित गांधार	तीव्र गांधार " साधारण गांधार)
१२. प्रीति	...	द्विगणित "	(तीव्रतम ग)
१३. मार्जनी	शुद्ध मध्यम	त्रिगणित "	शुद्ध मध्यम
१४. शिवि	...	चतुर्गणित "	...
१५. रत्ना	...	एकगणित मध्यम	...
१६. सदीपिनी	...	द्विगणित "	तीव्र म
१७. आकापिनी	शुद्ध वचम	त्रिगणित "	(तीव्रतम म)
१८. मदती	Never used	...	शुद्ध वचम
१९. रोहिणी	Never used	...	...
२०. रश्मि	शुद्ध धैवत	...	कोमल धैवत
२१. उग्रा	...	एकगणित ध	...
२२. लोमिणी	शुद्ध निषाद	द्विगणित ध	तीव्र ध (Southern चतुःश्रुति=पंचश्रुति)
२३. तीमा	...	एकगणित नि	कोमल नि " कैथिक नि)
२४. कुमुदती	...	द्विगणित नि	तीव्र नि " काकली नि)
२५. मंदा	...	त्रिगणित नि	(तीव्रतम नि)
२६. उदोवती	शुद्ध वद्ज	...	...

N. B.—The notes underlined are the notes of the present Hindustani Music system.

After explaining the shuddha and vikrita swaras, the author defines the following technical terms, वादी, संवादी, अनुवादी, विवादी, ग्रह, अंश and न्यास as follows:—

चतुर्विधाः स्वरा वादी संवादी च विवाद्यपि ।
अनुवादीति वादी तु प्रयोगे बहुलः स्वरः ।
अंशः स्थायीति पर्यायः रागोत्पादनहेतुकः ।
श्रुतयो द्वादशाष्टौवा ययोरंतरंगोचराः ॥
मिथः संवादिनौ तौ स्तो गत्यादेशचविभागतः ।
शेषाणामनुवादित्वं ज्ञेयमन्वर्थतः क्रमात् ॥

We have already discussed these terms and need say nothing further about them.

गीतादिनियतमात्रः स्वरो ग्रह इतीरितः ।

प्रयोगे बहुलोऽंशः स्यान्न्यासो गीतिसमासिकृत् ॥

Translation.—The note which begins a song is called "graha"; the one that ends it is called "nyasa", and the note which is most frequently used in the gita is called "ansha", which is synonymous with the 'vadi' or 'sthayi'. पट्जः सर्वधरागे च ग्रहः । Sa is the 'graha' of every raga. The terms 'graha', ansha, and 'nyasa' had apparently lost their ancient significance in the modern "deshi" sangeeta. Pundarika says in the Chandrodya :—

न्यासग्रहंशेषु च पूर्णतायां ।
श्रुतो तथा पाठव औद्धवेऽपि ॥
सर्वत्र देशीगतारागवृन्दे ।
श्रीमदनुमान् नियमं न व्रजे ॥

RAGA-ADHYAYA

In the Raga-adhyaya of the Raga Mala, Pundarika, first lays down his six 'purusha' ragas, and then gives each of them five 'bharyas', and five 'putras'.

राग नाम	रागभार्याः	पुत्राः
१ शुद्धभैरव	१ धनासी, २ भैरवी, ३ सैधवी, ४ मारवी, ५ आसावरी	१ भैरवी, २ शुद्धलितः, ३ पंचम, ४ परज, ५ बंगाल
२ हिंडोल	१ भूपाली, २ वसंती, ३ तोडी, ४ प्रथम-मंजरी, ५ तुरष्कतोडी	१ वसंत, २ शुद्ध बंगाल, ३ श्याम, ४ सामंत, ५ कामोद
३ देशकार	१ रामक्री, २ बहुली, ३ देशी, ४ जेतश्री, ५ गुर्जरी	१ ललित, २ विभास, ३ सारंग, ४ त्रिवण, ५ कल्याण
४ श्रीराग	१ गौडी, २ पाडी, ३ गुणकरी, ४ शुद्ध-रामक्री, ५ गुंडक्री	१ टक, २ देव गांधार, ३ मालव, ४ शुद्ध गौड, ५ कर्णाटबंगाल
५ शुद्धनाट	१ मालवश्री, २ देशाक्षी, ३ देवक्री, ४ मधुमाधवी, ५ अहरी	१ जिजावंती, २ सालंगनाट, ३ कर्नाट, ४ छायानाट, ५ हसीरनाट
६ नटनारायण	१ वेलावली, २ कांवोजी, ३ सावेरी, ४ सुहवी, ५ सौराष्ट्री	१ मल्हार, २ गौड, ३ केदार, ४ शंकरा-भरण ५ बिहागडा

It will be seen that all these raga names are to be found in the modern Hindustani system. Nay, many of the ragas, will be found to have preserved as nearly as possible their old forms. The new tune theory of the Hindustani musicians naturally brought in some characteristic changes and made the arrangement of the ragas still more attractive. In describing the thata of each raga in the Raga Mala Panduranga accomplishes two wonderful things. He first gives the swaras of the ragas and then gives the devatatmakā appearance or picture of the raga as also the tune for its singing. For instance,

सपोमातेद्रुवोऽयं प्रथमगतिगतिः सविधेः कपरी ।
 रात्र्यायस्मिन्ही शिवतश्चनो मरमदक्षिनेच ॥
 कति शृंगि दधानः मधनयुगलतो मुदिचे चन्द्रदूरी ।
 ईमेतेप्रथि मवाति विठलति वृषमे मंगवकुटुर्षः ॥

Explanation—Here the first line tells us that shuddha-Bhāvrava drops pa' and ri and is प्रथम गतिगति that is it takes the komal ga and komal ni. The rest of the sloka describes the Maradeva who is the presiding deity of the raga.

I shall not go into all the slokas describing all the ragas here but shall write down the first raga Shuddha-Bhāvrava with its swaras as given in the book. The Raga Mala is a printed book now which can be had for a few annas.

शुद्ध मैत्र	स, शुद्ध गी, एकगति ग, शुद्ध म, शुद्ध य, शुद्ध र एकगति नि	Explanatory Note
१ धनाभी	र, एकगति रि, एकगति ग, " " एकगति म एकगति नि	विपुलति = १
२ मैत्री	ग, " " " " " "	मधमगति = २
३ केवरी	ग, " " " " " "	मणिगति = ३
४ मारी	ग, शुद्ध री, विगति म, " " शुद्ध र विगति नि	मनमगति = ४
५ मालवरी	ग, " " मधमगति " " एकगति नि	मरमगति = ५
दुःखगतिः		
१ देव	स, क, री, विगति र, क, म, क, य, क, र, एकगति नि	
२ कुटिलि	ग, " मधमगति कटिलि takes all notes of the मधमगति	
३ पदम	ग, " " " " "	
४ पद्म	ग, क, री, विगति र, क, म, क, य, क, र, विगति नि	रति मधमगति
५ मंगल	ग, " " विगति र, " " " विगति नि	

RAGA MANJARI

The third treatise of Pundarika which we consider is the Raga Manjari. In this treatise also the writer sticks to his shuddha scale. The names of shuddha and vikrita swaras, and the method of describing these are the same as those of the Raga Mala. We thus find in the treatise the following verses of the Raga Mala repeated :

वेदाचलोकश्रुतिपुत्रयोदश्यां श्रुतौ ततः ।
 सप्तदश्यां च विश्यां च द्वाविश्यां च श्रुतौ क्रमात् ॥
 षड्जादीनां स्थितिः प्रोक्ता प्रथमा भरतादिभिः ।
 असपाः पूर्वपूर्वस्मात् संचरंत्युत्तरोत्तरमः ॥
 त्रिखिर्गतीस्ते प्रत्येकं याति गश्च चतुर्गतिः ।
 यद्यद्रागोपयोगः स्यात्तच्चदिच्छागतिर्भवेत् ॥

These verses have already been discussed, and we shall not repeat the discussion here. Pundarika adds an explanation in which he compares some of his vikrit swaras with those of the southern system. He says :—

साधारणः कैशिकी चांतरकाकलिनौ यथा ।
 साधारणः कैशिकी द्वौ क्रमाद्गतगतिगनिक्रमः ॥

Translation.—The notes 'sadharana', 'kaishika', 'antara' and 'kakali', are only the first and the second gatis of gandhar and nishada. What he means is that sadharana and kaishika are the prathama gatis of gandhar and nishad respectively, and the antara and kakali are the second gatis of the same two notes, Sadharana ga corresponding with the prathama gati of ga and kaishika ni being the prathama gati of ni. Antar ga and kakali ni are the second gatis of ga and ni respectively.

ऊर्ध्वखलस्तु गांधारो मध्यमोपरिसंस्थितः ।
 मस्य त्रिगतिमेदाश्च मनुः पक्षांतिको नृपः ॥

Translation.—When the note gandhar rises to its last gati it coincides with the shuddha maddyama. The shuddha maddyama rises through three gatis or shrutis and bears the three names मनु मध्यम, पक्षांतिक मध्यम, and नृप मध्यम, respectively.

These gatis would practically be the sounds of the fourteenth fifteenth and sixteenth srutis.

अथ कैशिकिनौ आयौ ऊर्ध्वखलौ द्वितीयकौ ।
 अत्युच्चं खलनामानौ तृतीयगतिकौ रिधौ ॥

Translation.—When ri and dha rise only one sruti each, they become 'kaishika' ri and 'kaishika dha' respectively. When they rise

two srutis, they become ऊर्ध्वस्रुत रि, ऊर्ध्वस्रुत ध. when they rise three srutis, they will be called अनुस्रुत रि ध respectively

A glance at the Sruṭi Svar chart of the Raga Mala will show clearly the positions of the swaras of the Raga Manjari also. The definitions of the terms वादी, सवादी, etc., are in no way different to those given in the Raga Mala. All ragas are founded on the shadja-grama alone.

वज्रप्रामादितान् गगान् सर्वे गायन्ति गायकाः ।

तस्मान्मृग्यतमः वज्रप्राम एव न चापरी ॥

On the question of the murchhanas, नटोद्दिष्ट and वज्र Pun-
darika simply quotes the verses of Sharangdeva Pandit the author of
the Sangeeta Ratnakara. It is to be remarked that none of the writers
of the last three or four centuries, say anything useful about the jatis
of Sharangdeva and Bharata, which evidently had gone out of use
in their time. All music was confined to one grama, namely the
shadja-grama, with its own shuddha and vikṛita swaras, all complete
Thātas were constructed out of these swaras, and these thātas pro-
duced their own "janya-ragas". All ragas were based on a system of
twelve shuddha and vikṛita swaras as a general rule. There were two
leading shuddha scales in the country. The northern scale corres-
ponded with our modern kṛi scale, and the southern shuddha scale
was the modern Kanakangi of the Karnatik system.

Query—When did the Bilawal scale come to be adopted as the
shuddha scale of the Hindusthani music system? To this question there
is no answer in any of the old Sanskrit treatises.

In the Raga-adhyaya Pundarika begins by laying down twenty
thātas for the classification of his Janya-ragas. These thātas are

सुमारी सोमनाथश्च टोडी गौडी वराहिका ।

केदारः शुद्धनाट्यश्च देशार्थी देशिकारकः ॥

गारंगदेविकम्पानकामोदश्च द्विजेश्वरः ।

नादरामकिर्तिदोर्ला कर्णाटश्च हर्षाङ्कः ॥

मालवर्षेक्षितोऽयम् श्रीगणेशसेवकमुक्ताम् ॥

The following chart will give the twenty thātas with their shud-
dha and vikṛita notes. The Hindustani equivalents will make the pos-
itions of the notes clear to the modern students.

राग नाम	सा	री	ग	म	प	ध	नि	हिंदुस्थानी स्वर नाम
१-पूर्यासी	शुद्ध	शुद्ध	शुद्ध	शुद्ध	शुद्ध	शुद्ध	शुद्ध	सा री री म प ध ध सा
२-सोमराग	"	"	"	"	"	"	एकगति	सा री री म प ध नि सां
३-तोड़ी	"	"	एकगति	"	"	"	"	सा री ग म प ध नि सां
४-गौड़ी	"	"	तृतीय गति	"	"	"	तृतीय गति	सा री ग म प ध नि सां
५-यराटी	"	"	शुद्ध	तृतीय गति	"	"	"	सा री री म प ध नि सां
६-फदार	"	द्वितीय गति	तृतीय गति	शुद्ध	"	द्वितीय गति	"	सा री ग म प ध नि सां
७-शुद्धनाट	"	तृतीय गति	"	"	"	तृतीय गति	"	सा ग ग म प नि नि सां
८-देशाक्षी	"	"	"	"	"	शुद्ध	"	सा ग ग म प ध नि सां
९-देशिकार	"	शुद्ध	"	तृतीय गति	"	"	"	सा री ग म प ध नि सां
१०-सारंग	"	द्वितीय गति	तृतीय गति	"	"	तृतीय गति	"	सा री म म प नि नि सां
११-आहेरी	"	"	एकगति	शुद्ध	"	शुद्ध	"	सा री ग म प ध नि सां
१२-कल्याण	"	"	तृतीय गति	तृतीय गति	"	"	"	सा री ग म प ध नि सां
१३-कामोद	"	शुद्ध	एकगति	"	"	"	एकगति	सा री ग म प ध नि सां
१४-हिजेज	"	"	"	शुद्ध	"	"	"	सा री ग म प ध नि सां Do. (In the Raga mala गुणविधुगति नि
१५-नादरामका	"	"	"	"	"	"	"	
१६-हिंदोल	"	द्वितीय गति	"	"	"	"	"	सा री ग म प ध नि सां
१७-कर्णट	"	"	तृतीय गति	"	"	तृतीय गति	तृतीय गति	सा री ग म प नि नि सां
१८-हंसीर	"	"	"	"	"	शुद्ध	"	सा री ग म प ध नि सां
१९-मालव कै०	"	एकगति	एकगति	"	"	एकगति	एकगति	सा री ग म प ध नि सां
२०-श्रीराग	"	"	तृतीय गति	"	"	"	"	सा री ग म प ध नि सां

मेल नाम	जन्य रागाः
१ पुरखारी	१ पुरखारी
२ सोमराग	१ सोमराग
३ गौड़ी	१ गौड़ी २ कर्णाटमंगल ३ गुर्जरी ४ बहुली ५ आमावरी ६ रामकली, ७ माफू, ८ टट ९ गुणकरी १० शुद्धललित ११ पंचम १२ षटमंजरी १३ मालवगौड़
४ टोडी	१ टोडी २ शुद्धभरव
५ बरादी	१ श्यामबरादी २ शुद्धबरादी
६ केदार	१ केदार २ गौड़ ३ मङ्गार ४ नट नारायण ५ बंठावली ६ भूपाली ७ कावोजी ८ मधुमाधवी ९ शंकरामरण १० सावेरी ११ सुहवी १२ नागयणी १३ केदारनाट
७ शुद्धभनाट	१ शुद्धनाट
८ देसाक्षी	१ देसाक्षी
९ देसकार	१ देसकार २ जावणी ३ देछी ४ ललित ५ दीपक ६ विमान
१० सारंग	१ सारंग
११ आहोरी	१ आहोरी
१२ कल्याण	१ कल्याण
१३ कामोद	१ कामोद
१४ हिजेज	१ हिजेज २ अपरमेरव
१५ नादरामकी	१ नादरामकी
१६ हिंदोल	१ हिंदोल २ वमत
१७ कर्नाट	१ कर्णाट २ सामत ३ सौराष्ट्री ४ कल्याणट ५ शुद्धमंगल ६ शुद्धकतोडी
१८ हमीर	१ हमीर
१९ मानव के.	१ मालवकेशिक २ मालवगौड़ ३ धन्यागी ४ सैधवा ५ देवगांधार
२० श्री	१ श्रीराग

This list will no doubt be of great interest to the student of the Hindustani system of music

Towards the end of the book, Pundarika takes note of a few Persian ragas which he perhaps found introduced into the Hindustani system by the Mohamedan musicians.

अन्येऽपि पारसीया रागाः परदनामकाः ।
 संपूर्णाः सर्वगमकाः काकल्पतरिता सदा ॥
 रहायी देवगांधार कानरच निशावरः ।
 सागि माहुरो नाम जंग्लोऽथ वंगालके ॥
 देश्यामाहंगको नाम बारा मल्हाररागके ।
 केदारोऽपि च मृदहाथ धनास्यो च इरायिका ॥
 जिजावरयो च हासेनी मालवे मुसलीककः
 कल्याणे यमनं गायेत् सर्पदोऽथ विलावले ॥
 देशिकारे चास्त्ररजः आसावर्यो हिजेजकः ।
 देवगिर्यो मुदाफार्य एवमन्येऽपि योजयेत् ॥

Pundarika has no doubt done a great service to the music scholar by giving these Persian melodies with their Indian equivalents. Possibly, the locative case termination of the Indian rāga name is intended to show that the Persian melody is not exactly the same as the Indian but that the two are founded on the same scale.

RASA-KAUMUDI

The author describes his place of residence and patron as follows :

स्थातो दिव्यकुलेऽमरदगुणनिधिर्विशेषोऽमो मंगलः ।
श्रीमद्विष्णुपदाविंदयुगले मत्तस्तदीयात्मजः ॥
काम्यं काम्यकलाकलापकुसुमः श्रीकण्ठनामा कविः ।
कुर्वेऽहं रमकीमुदीति निपुणः संगीतवाद्द्विषयोः ॥
हारावलाः सर्वाणि नवनगरपुरे क्षमापतिः पूर्वमागे ।
जामश्रीःशुक्रस्यः सकलजनमनोरंजकः पुण्यराशिः ॥
श्रीकण्ठस्तत्समायां कविरमलमतिर्विपते विप्रवर्यः ।
तेन प्रौढप्रमेयमुक्तिरसुमंगं रच्यते काम्यमेतत् ॥

from this it would appear that the author's name was Sri Kantha, and the book was written while he was in the service of the Jam Sahab of Nawa Nagar, a town near the well-known sacred city of Dwara

The General Arrangement of the Work.

The book is first divided into two khandas or parts. Each of these again contains five adhyayas or chapters. The first khandas with which we are concerned is called the Sangeet khandas, and the second deals with Sahitya or rhetoric. The contents of the first chapter of the first khandas are described in the following slokas

संगीतं प्रथमं तस्मात् पूर्वखंडे निगद्यते ।
साहित्यमुच्यते खंडे ग्रन्थस्यास्य क्रमो भवेत् ॥
अध्यायेर्दशमिर्विभूतिततनूः सप्तद्वयेनोऽञ्जला ।
स्वच्छंदं रसकौमुदी विजयते विद्वन्मनोरंजिनी ॥
अध्यायैः किल पञ्चमिर्विरचितं तत्रापचखंडं परम् ।
सप्त पञ्चमिरेव नव्यरचना साहित्यमर्दोपकम् ॥
अध्याये प्रथमे तत्र चक्राणि नादममरः ।
रचनानि श्रुतयः शुद्धाः स्वराः सप्त विकारत्राः ॥

वापादिमेदाश्रत्वागे ग्रामी तद्वृत्तमूर्धनाः ।
 शुद्धकूटाभिधास्तानाः प्रस्तारसङ्गसंख्यया ॥
 नष्टोद्दिष्टं महापाथ वर्णोऽलंकार संग्रहः ।
 वर्ण्यते कमशर्धते गीतशास्त्रप्रमाणतः ॥

This is the usual *पदार्थसंग्रह* of the *Swaradhyaya* of all ancient Sanskrit writers.

The author then deals with the different subjects mentioned in the last slokas in their order. We need not go into these details because there he borrows everything from older authors but puts the thing in his own way. The description of the *sruti* for instance is nothing more than a paraphrase of the *Naradi Shiksha* definition. The placing of the *swaras* again on the *srutis* is the same as that of the ancient writers. Thus :

स्वोपात्यश्रुतिसंस्थास्ते षड्जमध्यमर्षचमाः ।
 भरतादिभिराचार्यैश्च्युतपूर्वोभिधा मताः ॥
 साधारणाभिधा गच्छेद्गो माचश्रुतिगो यदि ।
 अंतराख्यां ततां याति द्वितीयश्रुतिसंस्थितः ॥
 षड्जस्याप श्रुतिगतो निपादःकैशिको मतः ।
 वर्तमानो द्वितीयाया काकला स निगद्यते ॥
 स्वरास्ते मिलिताः सर्वे चतुर्दश भवन्ति ते ॥
 नो दृश्यते यया मार्गो मीनानां जलचारिणां ।
 यथा ज्योम्नि विहंगानां तथा स्वरगता श्रुतिः ॥

The only wonder is that the author does not find any difficulty in reconciling the definition of the *sruti* with the description of the *swaras*. Sri Kantha evidently recognises seven *shuddha* and seven *vikrita* *swaras* which he describes in the above slokas. His *swaras* may be compared with the modern *Hindusthani swaras* as follows :

Shri Kantha's swaras		Hindusthani swaras
१ शुद्ध सा ...	...	१ शुद्ध सा.
२ शुद्ध री ...	...	२ कोमल री.
३ शुद्ध ग ...	...	३ तीव्र री.
४ साधारण ग ...	...	४ कोमल ग.
५ अंतर ग ...	...	५ तीव्र ग.
६ उपात्य or पतम ...	...	६ तीव्रतम ग.
७ शुद्ध म ...	...	७ शुद्ध म.

८ उर्वात्यप ०१ पठप	...	...	८ तीव्र म.
९ शुद्ध प	...	...	९ शुद्ध प.
१० शुद्ध ध	...	...	१० कोमल ध.
११ शुद्ध नि	...	...	११ तीव्र ध.
१२ कैशिक नि	...	...	१२ कोमल नि.
१३ काकुली नि	...	...	१३ तीव्र नि.
१४ उर्वात्य सा-पठमा	...	...	१४ तीव्रतम नि.

The ancient gramas are disposed off thus

षड्जमण्यमयोर्मध्ये षड्जस्य मूर्च्छयता मवेत् ।
 आपत्वाद्विलौपित्वापथार्यैश्चनान्पुनः ॥
 षड्जमण्यमजातानां मूर्च्छनानां परस्परम् ।
 किंचिद्विसेषत्वादङ्कत्वमुक्तवान् दत्तिलः शकुट्य ॥
 हरमात्र मेनिरे ग्रामं मण्यम गुरवो मम ॥

Whatever his reason we see that he recognises only one grama namely the shadja grama. On the subject of murchhana, tana, alankara and prastara, he has hardly anything new to tell us. There is no evidence to show that he understood clearly the functions of the ancient gramas and murchhanas. Then comes the Raga Adhyaya. All music was based on twelve notes, as in the case of the other writers

अथ रागविवेकाख्ये द्वितीये वर्णने क्त्वात् ।
 रागरतुतिस्तु बीजाद्याः प्रयत्नाः तदनन्तरम् ॥
 स्वराणां स्थापनं चैव मेदो वादनसंभवः ।
 विवेकश्चैव रागाणां प्यायानि भवकादयः ॥

In the Raga Adhyaya, he describes the Vina in full detail. The wires were tuned as follows :

ऊर्ध्वतंत्रीयु या वामे तस्यां समनुग्रहकम् ।
 पचमं चानुमं द्राक्ष्य द्वितीयायां निवेशयेत् ।
 गदषड्जं तृतीयायां चतुर्थ्यां मंदमण्यमम् ॥

This arrangement exactly tallies with that of Rama-Amatya and Somnath as will be seen later on. But Pundarikā, tuned his wires in the same way. The placing of the frets is described in the following verses (Vide Pundarikā's Vina Chart).

साभिनिवेशनं युक्तया क्रमतः प्रतिपद्यते ।
अनुमंदमंतं गार्वा शुद्धौ रिः स्याद्यथा तथा ॥

नियंत्या प्रथमा सारी, तथा तन्त्र्या द्वितीयिका ।
शुद्धगार्वाभिष्यर्थ, तथा तन्त्र्या तृतीयिका ॥

साधारणान्यगार्वाभिष्यर्थे क्रमस्ततः ।
स्याद्यन्त्यैव तुर्यापि चतुर्थमप्यमहंतवे ॥

शुद्धमप्यमभिष्यर्थं सारिका पंचमी तथा ।
तन्त्र्या तथा पुनः षष्ठा पतपंचमसिष्ये ॥

शेषाभिध प्रितन्त्राभिभक्तसारीषु ये स्वराः ।
वर्ण्यते ते क्रमेणैव शुक्ला मे यथादिताः ॥

पंचमेनानुमंदेन या तन्त्र्या समुपाधिता ।
तथा द्वितीयया तन्त्र्या जायते शुद्धधैवतः ॥

ततः शुद्धनिपादास्तु निपादः कैशिकी पुनः ।
तत्पुस्तान् पतः षड्जः शुद्धषड्जस्ततः परम् ॥

तत्पश्चादपमः शुद्धः पञ्चे गदिताः स्वराः ।
जातौ द्वितीयया तन्त्र्या विशुद्धौ यौ सगौ स्वरो ॥

स्थाप्यौ नैव प्रयोगे तौ यतस्तन्त्र्या तृतीयया ।
जायते तौ पुनर्मंदौ शुद्धौ वीणाविदोदितौ ॥

एतेऽनुमंदजाः प्रोक्ताः कथ्यन्ते मंदजाः कमात् ।
तन्त्र्या तृतीयया मंदस्तस्य सारीषु तास्वपि ॥

तर्धैव स्युः कमादेते स्वरा जनमनोहसः ।

तत्र तावद्यथा तन्त्र्या विशुद्धमप्यमो भवेत् ॥

पतपंचमकः पश्चादप्रयोगौ पुनः स्वरो ।

संजायते यतस्तन्त्र्या चतुर्थ्यामिति निर्णयः ॥

चतुर्थ्यापि पुनस्तन्त्र्या मंदमप्यमयुक्तया ।

षड्सु तास्वपि सारीषु भवेयुः क्रमशः स्वराः ॥

पतपः प्रथमः शुद्धपंचमस्तदनंतरम् ।

शुद्धोधः शुद्धनिः पश्चान्निपादः कैशिकी ततः ॥

षड्जः पतादिरित्येते प्रोक्ता मन्दस्वरा मया ।

पुरोदितासु सारीषु तंत्राभिश्च चतसृभिः ॥

अनुमंदस्तथा मंदाः प्रोदिष्टास्ते स्वयं भुवः ।

स्वायकल्पनया प्रोक्ताः प्रामाण्यं तेषु विद्यते ॥

शुद्धा मे यथोरिष्टा बीजायां सुप्रपंचिताः ।
 अत एवान्वया कर्तुं भुवि कं भवति क्षमः ॥
 सवादिनी स्वरी योग्यौ सर्वत्रापि परस्परम् ।
 मध्ये तारेऽनितारोऽपि योजनीया यथाक्रमम् ॥
 अंतरे कथिना नैव सारी काकलिनि स्त्री ।
 सार्कयं जायते यस्माद्वानुसूय मनेषतः ॥
 अंतरस्य स्वरस्यापि सूक्ष्मः काकलिनो ध्वनिः ।
 विचार्यो विज्ञव्येन पतादिषड्जमप्यथोः ॥
 पतादि समयोः सामांशकैकभुक्तिवर्जितौ ।
 अतर-काकली स्यातां तयोःप्रतिनिधी च तौ ॥

These verses clearly show that Śrī Kāṭha had read the southern authorities *Swara Mela Kāṇidhi* and *Raga Vibodha*.

The प्रतिनिधि theory by which "antar" and "kakali" notes were represented by च्युत or पन ma and च्युन or पत sa, was known to Śrī Kāṭha, and he mentions it in his work. In the southern music system of the present day, the notes antar and kakali represent च्युत ma and च्युत sa.

The shuddha thāta of Śrī Kāṭha is Mukhari which coincides with the southern shuddha scale. The author says :

यत्र शुद्धस्वराः सप्त मवेपुश्चित्तव्रजकाः ।
 स स्यान्मुखारिका मेलः सजातीयो मन्वतः ॥

He finds the shuddha scale, चित्तव्रज but the Mukhari raga from it, he did not find so easy apparently.

सन्धासांशमहा पूर्णं सुखागी गीयते सदा ।
 कतिचिद्रूपकैर्गुणैः कष्टसाध्या सुषुप्तिभिः ॥

The importance of remembering the देवतारूप रूप or picture of the raga, is mentioned as under.

ध्यानं विना रागमयूहमेत ।
 गावन्ति रागेऽनिपुणा जना ये ॥
 संगीतशास्त्रोक्तकलानि रागाः ।
 तेष्वः प्रपश्यन्ति कदापि नैव ॥

Chart showing the nine thatas of Shrikantha with their Swaras:—

थाट नाम	स्वराः	हिंदुस्थानि स्वराः
१ मालव गौड	सा री ग म प ध नी सा, रीशुद्ध, पतम, शुद्धम, शुद्धप, शुद्धध, पतसा	सारी ग म प ध नि सा
२ री	सा, चतुश्चुतिरी, साधारणग, शुद्धम, शुद्धप, चतुःश्रुतिध, कैशिकानि	सारी ग म प ध नि सा
३ शुद्ध नाट	सा, त्रिभुतिग, पतम, शुद्धम, शुद्धप, त्रिभुतिनि, पतसा	सा ग ग म प नि नि सा
४ कर्णाट गौड	सा, शुद्धग, पतम, शुद्धम, शुद्धप, शुद्धनि, कैशिकानि	सारी ग म प ध नि सा
५ केदार	सा, शुद्धग, पतम, शुद्धम, शुद्धप, शुद्धनि, पतसा	सारी ग म प ध नि सा
६ महार	सा, शुद्धग, पतम, शुद्धम, शुद्धप, त्रिभुतिनि पतसा	सारी ग म प नि नि सा
७ देशाक्षी	सा, त्रिभुतिग, पतम, शुद्धम, शुद्धप, शुद्धनि, पतसा	सा ग ग म प ध नि सा
८ कल्याण	सा, शुद्धग, साधारणग, पतप, शुद्धप, शुद्धनि, पतसा	सारी ग म प ध नि सा
९ सारंग	सा, शुद्धग, { शुद्धम, शुद्धप, कैशिकानि, पतसा पतप.	सारी म म प नि नि सा विशुद्धौपलजगंधारौ तथा मध्यमपंचमौ पताधौच समौ (समौ ?) यत्र निपादः कैशिकी पुनः

गैल	जन्य जनक राग व्यवस्था
१ मालव गौड	१ मालव गौड २ सौराष्ट्र ३ गुजरी ४ मल्हारी ५ बहुली ६ पाडी ७ गौडपंचम ८ मैरवी ९ कर्णाट बंगाल (१०) ललित (११) गौडी. This is the मैरवी थाट of Hindustani Music.
२ री	१ री २ मालवरी ३ घनाक्षी ४ मैरवी ५ देवगाधार. This is the Nor- thern Kaphi Thata.
३ शुद्ध नाट	१ शुद्ध नाट.
४ कर्णाट गौड	१ कर्णाट गौड. This Thata will correspond with the Nor- thern Khamaj.
५ केदार	१ बिलावली २ नटनारायण ३ शंकराभरण. This is the Hindustani Bilawal Thata.
६ महार	१ गौड मल्हारी २ कामोद.
७ देशाक्षी	१ देशाक्षी.
८ कल्याण	१ कामोद २ हमार.
९ सारंग	१ सारंग.

Explanatory Notes

शुद्ध री & शुद्ध व	Northern कोमल री & कोमल व
शुद्ध ग & शुद्ध नि	„ तीव्र री & तीव्र व
साधारण ग & कैश्चिक नि	„ कोमल ग & कोमल नि
पतसा, पतम & पतप	तीव्रतम नि, तीव्रतम ग & तीव्रतम म
विधुनि य & विधुता नि	कोमल ग & कोमल नि

After dealing with the Raga the author proceeds to some matters of general interest.

रागास्ते विविधाः श्रोत्राः शुद्धायालगास्ततः ।
 सकीर्णाश्च पृथक् तेषां लक्षणं प्रतिपद्यते ॥
 अन्ये रागेर्नयुक्तास्ते रागाः शुद्धाऽर्थातिताः
 जायालगा यताः प्राज्ञैः परस्मिन्पुताश्च ये ॥
 द्वयो रस्मिन्पुता ये तु सकीर्णास्ते निरूपिताः ।

The author does not say which Ragas come under each of these classes and why.

The Qualifications of male and female Singers are mentioned as follows :—

नानारागकलाकलापकुशलः विवाधोपीश्वरताः ।
 गायित्वोऽखिलगीतशायनिपुणास्ताले हि रक्षा लये ।
 रम्याः कोकिलकंठमनुलतराव्यानाः प्रगल्भा रसे ।
 साक्षात् कामजवभिदः सदसिताः क्षोमां पशं तन्वते ।
 श्वशतपत्रिपरिपुष्टुमजितसःकेयूरमागम्विताः ।
 शोभाशदनचातुरीचयचक्रकारैः समामोहिनी ।
 भ्रातराङ्गागककेसरोम्बलरसैरत्यन्तमास्त्रयतुः ।
 कौशेर्वावरान्त्रितातिमधुरा गाने रता गायिनी ॥
 विश्वानालापदक्षो गमकलयकलाकाकुर्वितोऽतिधीरोऽ ।
 नय्यांती क्षोषरितः सकलजगन्मनोरञ्जकः सावधानः ।
 शुद्धायालगागमः भवराहिततनुः कोकिलवस्त्वकंठः ।
 तावामिक्षो मूढः सुमुखि निगदिते गायकानां वारण्यः ।

The different classes of Singers are described in the following Shlokas :—

रतं यो शिष्यते गीतं विभक्तं प्राञ्जलं तथा ।
 शुद्धे वा श्रुत्ये सम्यक् शिक्षाभ्याः स उच्यते ॥
 सुभाष्यं गीतमाकर्ण्य यो भवेत्पुलकान्वितः ।
 सानन्दोऽभूतिराजीवो रसिको गायकः रमृतः ॥

नारसं सरसं कुर्वन् निर्मावं भावसंयुतं ।
 सान्वा श्रोतुरभिप्रायं यो गायेन् सतु भावुकः ॥
 मनोहरति गीतेन विदित्वा श्रोतुराक्षयम् ।
 रंगं गीते विधत्ते यो रंजकः सोऽभिधीयते ॥
 यथा शास्त्रप्रयोगेण मार्गं दर्शयमेव च ।
 यो गायति क्रियाक्षेमान् कथ्यतेऽसौ क्रियापरः ॥
 स्वरो वर्णश्च तालश्च स्पष्टं घाटयति स्वयं ।
 सुन्दरश्च निरंगुक्तः सुघटं तं प्रचक्षते ॥
 गीतादिषु द्विधा लसि कुर्वीत सौख्यविधायिनो ।
 आलासगायकः सोऽयं निर्दिष्टो गीतवेदिभिः ॥
 आलक्ष्नेरपि यद्गीतं भवेदतिमनोहरं ।
 उक्तो गायकमेदक्षः सोऽयं रूपकगायकः ॥
 नानाविधं विभक्तं च चूर्णं यस्य भवेद्रतम् ।
 निबन्धः सतु विसृज्यो गीततत्त्वविचक्षणैः ॥
 रागे रागांतरच्छाया मिथ्येदोषवर्जितः ।
 प्रवीणत्वेन सगायन् बुद्धिर्मिश्र उदाहृतः ॥
 गायकदोषाः ।
 रसानुरूपरागानामस्तत्त्वमविदग्धता ।
 ग्राम्योक्तिरपक्षच्छेद प्रबंधज्ञानहीनता ॥
 विविधकाकुमेदाः ।
 श्रुतिमानाधिकतया रागे स्वरस्य कुप्रचिन् ।
 छाया या दृश्यते तां तु स्वरच्छायां जगुर्बुधाः ॥
 या रागस्य निजच्छाया रागच्छायां तु तां विदुः ।
 रागे रागांतरच्छाया सैव स्यादन्तरागजा ॥
 रागस्योत्पत्तिभूक्षेत्रं शरीरं जगदुर्बुधाः ।
 तस्यैवानुकृतित्वाच्च क्षेत्रच्छायेति सा मता ॥
 वर्णावशादियं यो तथा वंशच्छाया स्मृता बुधैः ।
 देशच्छायोत्थिता रागे देशच्छायोच्यते बुधैः ॥

Shrikantha then describes the old स्वस्थान चतुष्टय of the ancient writers and adds :—

सर्वगीतप्रबंधानामावालासिरिप्यते ।
 आलसिः सा द्विधा प्रोक्ता विपमा सरला तथा ॥
 साक्षरा नाक्षरा सापि चतुर्धा भिद्यते ततः ।
 सतालतालभेदेन चतुर्धाप्यष्टधा ततः ॥

It is quite possible that Shrikantha like Pundarika Vithala came from the Southern Presidency and then settled in Kathiawar :—

The Works of Bhava Bhatta Pandit

We shall now proceed to consider the three works of Pandit Bhavabhattacha, namely Anupa Sangita Vilas, Anupa Ratnakara, and Anupankusha. Bhavabhattacha was in the service of the Rathod Rajput King Anupa Singh, the son of Karan Singh of Bikaner. Anupa Singh was a contemporary of the Emperor Aurangzeb. Bhavabhattacha's father, Janardan Bhatta was in the service of the Emperor Shah Jehan, the great Mogul-Emperor of Delhi. It is quite possible that during the reign of Aurangzeb, who was not over fond of music, the Court musicians of Shah Jehan, got scattered and Janardan Bhatta or his son Bhava Bhatta took service at Bikaner. Bhava Bhatta in his Anupa Vilasa, mentions his family and residence as follows —

वृत्तार्जुनो मूत्वा नमस्तस्य त्रिजोषमान् ।
 तद्वदुमानमाहूय प्रस्थापितः स्वदक्षिणे ॥
 ततः पश्यत् ॥ राजा मामगोत्रकुलानि च ।
 क्षण विमृष्य तत्त्वैर्ब्रूने मावः सविस्तरम् ॥
 कुलाग्रगोत्रसमूहं कुलमासीन्देवताम् ।
 पुरावत्तद्विधातुः प्रविता तानमहकः ॥
 पिता जनार्दनः साक्षाज्जनार्दन इवापरः ।
 मातुः स्वप्रमत्ता नाम मातेः पुत्र स्वपूर्वजैः ॥
 विक्रान्तो मानमो मावः पदवी महामहिका ।
 महः पूये स्मृतः कोत्ते श्रीमदमरकोशकं ॥
 सेनेद मावमहेति कीर्तितं वाद्यममवम् ।
 तीर्थत्रिकं तु संगीतं संगीती तन्न उच्यते ॥
 घनशयमेन चातुष्टुष्टकवर्तिनि कीर्तितम् ।
 श्रीमत्पादित्तुजाभूषदत्त रावपदे ततः ।
 श्रीमत्पादित्तुजाभूषदत्त रावपदे ततः ।
 एवं नामेद जते श्रीमदनुपविमो मम ।

It would thus appear that the poet was born in Dhavalpur in the Abhur district, (Malwa). He was a Brahmin by caste and his gotra was Krishnatra. His mother's name was Swapnabhava and his father's name was Janardan Bhatta. Janardan Bhatta was given by the Emperor Shah Jehan, the title of Sangeeta Raj. According to research scholars, Anupa Singh ruled in Bikaner from 1674 A D to 1709 A. D. Bhava Bhatta's own title was "Anushtupa-Chakravarti-Sangeeta-Raj." The whole material of the Swaraadhyaya of Anupa Vilas has been borrowed from the Sangeeta Ratnakara of Sharang Deva. The author does not give us the impression that he clearly followed the theories of

the Ratnakara. He quotes from several other treatises both anterior and subsequent to the Ratnakar. It is said by some of our modern scholars that Pandit Bhava is more of a compiler than an original author. To some extent, I think they are right. In the Anupa Vilas, the author, after describing "Nada" and "Sangeeta" in the usual way, copies the whole of the पिंडोपत्तिप्रकरण from the Ratnakara, under the name शरीरभावप्रकाश. Next he deals with the theory of the productions of 'Nada'. Then comes the description of the 22 srutis and the swaras based on them. He brings in a lot of unnecessary detail from the commentary of Kallinath too, on the sruti-svara, Prakarana. Srutis are divided into two classes "gatraja", and "yantraja".

कैश्चिदन्यानि नामानि श्रुतीनां कथितानि तु ।

तन्मते गात्रजाश्चोर्ध्वं यंत्रजाश्चापरा मताः ॥

The usual तीव्रा, कुमुद्वती, मंदा, छंदोवती । and others are the 'गात्रज' Shrutis; the Shrutis are,

निष्कला	रसगीतिका (ह्रस्वगीतिका)	नार्दाता
गूढा	रंजिका	सौम्या
सकला	पूर्णा	भाषागिका
मधुरा	अलंकारिणी	वार्तिका
ललिता	वैणिका	व्यापका
एकाक्षरा	वल्लिता	प्रसन्ना
शृंगजाति	त्रिस्थाना	सुभगा
		नंदना

The distinction between the sruti and the swara is attempted to be explained by quotations from Parijata, Ratnakar, Sringara-har, and Raga Kutuhala. It is not necessary to go into these quotations here. Each of the seven swaras is then described with its picture, presiding deity, "dwipa," in a wealth of detail, of hardly any practical use. The definitions of 'grama', 'murchhana', 'jati', 'varna', 'shuddha tana', 'kuta tana', and 'alankara', are all taken from the Sangeeta Ratnakara and the Parijata. Sharangdeva Pandit in the description of his vikrit swaras has used the term 'chyuta' and with reference to it, Bhava Bhatta says :—

ग्रामस्वरो मेरुसंस्थो ध्रुवत्वात्स्यात् कथं च्युतः ।

च्युतस्यापि कथं तस्याच्युतत्वं परिकीर्तितम् ॥

उच्यते भावमष्टेन ग्रामस्वरश्रुतिर्नहि ।

पङ्कजग्रामे मध्यमस्य पङ्कजस्यापि च मध्यमे ॥

मिचग्रामे च्युतिरस्ति स्वग्रामे न कदाचन ।

This only shows that Bhava Bhatta was unable to follow the music system expounded by Sharangdeva. There is reason to believe that the suddha thata of Bhava Bhatta was the same as that of Pundarika. It is no doubt extremely difficult to find out what was really the author's own system. I admit, he adds in some places the expression स्वमते to the quotation. But the question what was his own system of music still remains.

On the question of the vikrita swaras, Bhava Bhatta says. —

द्वादशविहृतान् पूर्वे वदति तत्रनु पृथक् पृथक् धनितः ।
सन्तेव स्युर्मित्रा नपंच यदिमे समन्वयः ॥ रागविशेषे ।
चत्वारिंशत्तु ते प्रोक्ता आधिका मासमस्ताः ॥

All these forty-two vikritas, are based on the twenty-two srutis which form the basis of the system. We have already seen that Ahobala had twenty-nine swara names. Bhava Bhatta goes ■ step further, and adopts forty-two swara names. Strangely enough, he omits to say anything about these vikritas in his raga descriptions.

In the Raga Adhyaya, the Pandit begins by mentioning the 234 ragas of the Sangeeta Ratnakara by name and then turns to those of the Sangeeta Parijata. The "upanga ragas" of Bilawal, Kedar, Gauri, Purnya, and so forth deserve notice. On the different varieties of Kanada, he gives us two excellent Hindi, "sawais", which are —

जो दरबारी सां सुद्ध कहावे मलारमिलावके बायकि जानो ।
बागेलरी घण्टासिरिके मिले मेघमिले ते श्रवना जानो ।
होत सद्धानो मिले कबदस्त के दुरिया जेतसिरीसुरगानो ।
मंगल अष्टक सोहि कहावत भावकदे खटमेददजानो ॥
मुद्रिकगारोहुतेनिओबाझोमिलेनिध मेदवसानत हैजू ।
सोहि ओर सबावतिसो मिले द्वादशमेदपोमानत हैजू ।
कर्नाटगीर ओ कर्नाटमेद हैयो सुनिमेद वसानत हैजू ।
मूरचना मरुअंसओ ग्यासवि मेळ मिलावविमानत हैजू ।

These two verses throw a good deal of light on the Hindusthani varieties of the Kanada Raga.

In the Anupa Vilas, the Pandit deals with about 70 ragas. In defining each raga, he quotes the opinion of the following treatises :—

(१) संगीतरत्नाकर (२) संगीत पारिजात (३) संगीत दर्पण (४) सङ्कीर्णरागाध्याय
(५) नृत्यनिर्णय (६) हृदयप्रकाश (७) रागमंजरी (८) रागतरङ्गविमोच (९) सङ्गायचन्द्रोदय
(१०) रागविमोच.

He leaves his readers to find out the *Thatas* and the *Swaras* of the *Ragas* for themselves.

We have already discussed some of the authorities of *Bhava-bhatta*. The *Ragas* described by *Bhavabhatta* in the *Anupa Vilas* are:—

अढाना	तुक्कतोडी	भूपाली	विभास
अजन	तोडी	भैरव	विहंगड
आसावरी	पावणी	भैरव भेद	वेलावली
कल्याण	दीपक	भैरवी	शंकरभरण
कामोद	देवगंधार	भंगलकौशिक	श्यामनाट
कामोडी	देशकार	भंजुवोषा	शुद्ध नाट
कोरहास	नट	मन्तली	श्री
केदार	नटनारायण	मालवथी	सामंत
कुकुभ	नीलावरी	मालव कौशिक	सारंग
कुर्जरी	नारायण गौड	मालवी	सिहरव
गोडसारंग	पटंगजरी	मुत्तरी	सुरालय
गोरी	परज	मेघनन्द	सुवर्ण
पटारव	पहाडी	रक्तहंस	सुहर्वा
धक्रधर	बंगल	ललिता	संघवी
छायानट	बहुली	बराही	सौराष्ट्री
जयावन्ती	बंगाली	वर्णनाट	हंमीर
जैतथी	मिथपञ्ज	वसंत	

With the exception of the *Ratnakara* and *Sangeeta Darpana* all the authorities quoted by the author have been discussed in this paper and it will therefore not be very difficult to determine the *Thatas* and the forms of their *Ragas*.

Anupa Sangita Ratnakara

In the *swara adhyaya* of this work again, *Bhava Bhatta* gives us nothing original on the question of *sruti*, *swara*, *grama*, *murchhana*, *tana*, *varna*, and *alankara*. He copies almost everything from the *Sangeeta Ratnakara*. "*Alapti*", "*dhrupada*" and "*quada*" are defined as under.

वर्णालंकारसंपन्ना गमकस्यायचित्रिता ।

आलप्तिरुच्यते तज्जैर्बहुवैचित्र्यसंयुता ॥

अथ ध्रुवपद लक्षणम् ।

गीर्वाणमप्यदेशीयभाषासाहित्यराजितम् ।

द्विचतुर्वैचित्र्यसंपन्नं नरनारीकथाश्रयम् ॥

गृह्यारस भावाय रागात्पदस्यम् ।
 पादात्तात् प्रासपुक्त पादात्पुगकं च वा ॥
 प्रतिपाद यत्र नदमेव पादचतुष्टयम् ।
 उद्गाहभुवका भोगान्तरं भुवपदं स्मृतम् ॥
 अथ क्वाड लक्षणम् ।
 कश्चित्तालानुपक्रम्य प्रयोगबहुलद्रुतम् ।
 संकीर्णनिकृतिभिः प्रवृत्तं सुमनोहरम् ॥
 कुआगख्यां च तद्वैचैः तालरूप विवक्षणः ।
 अन्यैकद्वित्रिचतुस्तालानां मेलन भिधः ॥
 किञ्चित्कविभागेन कुआडः परिकीर्तितः ॥

These definitions may be found somewhat interesting and instructive. In the Raga Adhyaya the varieties of some of the popular ragas are enumerated as follows.—

अधनाटप्रमेदानापुरेशः कियतेऽधुना ।
 शुद्धनाटोऽथ सालंगनाटश्चाद्यादिनाटकः ॥
 कंदारादिकनाटश्च तथा कल्याणनाटकः ।
 तथाभीरकनाटश्च वराहीनाटकस्तथा ॥
 ततः सारंगनाटश्च ततः कामोदनाटकः ।
 वर्णनाटश्च विष्णुसनाटो हंसीरनाटकः ॥
 कदंबनाटकः पूर्वानाटः कर्णाटनाटकः ।
 पूर्वाकर्णाटकोऽप्यत्रनाटभेदाः प्रकीर्तिताः ॥ इति नादाः ।
 शुद्धकर्णाटरागश्च कर्णाटो नायकी ततः ।
 बागीश्वर्यादि कर्णाटः कर्णाटोऽष्टाणपूर्वकः ॥
 ततः साहजानाकर्णाटः पूरियादिस्ततः परम् ।
 ततोऽप्युद्धकर्णाटो गाराकर्णाटकस्ततः ॥
 हुमेनीपूर्वकर्णाटः काफीकर्णाटकस्ततः ।
 सोरठीपूर्वकर्णाटः खभावत्यादिकस्ततः ॥
 ततः कर्णाटगौडः स्यात् । कर्णाट्यस्ते चतुर्दश ॥

Then follow the varieties of Kalyana, कल्याण, बिलावली, तोरी, गौरा, गौड, वराही, आमावरी, कंदार, विहगन, सारंग, भीरव, कामोद, शुद्धी, सैधवी सत्तार. It will be useful for the music scholars to make an attempt to collect and preserve in a central place old songs of these varieties from the living artists in the country.

All this will show that Hindusthani music was going through wonderful changes and that there were great artists in those Mahomedan times. I only wish Bhava Bhatta had taken the trouble to carefully define or describe all these "upanga ragas". His omission has left us, no doubt, in a very unfortunate position. It appears he was a great admirer of Pundarika. In the Raga-Adhyaya of Ratnakara, he has practically adopted the raga classification of the Raga Manjari of that writer. He says :—

टोडीगौरीवराट्यानां केदारशुद्धनाटयोः ।
मालवाकैशिकार्यस्य श्रीरागस्य ततः परम् ॥
हमीरहेमकल्याणौ देशाक्षौ देशिकारकः ।
सारंगस्य च कर्णोटः स कामोदो हिजेजकः ॥
नादरामकिर्हिंदोलौ मुखारी सोमरागकः ।
एतेषां मेलसंज्ञातराणां च यथायथम् ॥
लक्षणं वक्ष्यते किंतु लोकवृत्तानुसारतः ॥

Then these thatas with their proper swaras and their janya ragas are faithfully copied from the Manjari. Be it stated here that Bhava Bhatta does not conceal the fact that he has copied these all from the Manjari. He then gives the definitions of some of our popular ragas, and while giving them, he cites as authorities the opinion of other granthas. All the three works of Bhava Bhatta are printed and published now, and so we shall not go into the details of his ragas. We have fully discussed almost all his authorities and so the swara and other details of these ragas will be easily followed by the reader. Bhava Bhatta has added hundreds of old dhrupadas under the different ragas. But as they are not set to any notation, I have not thought it fit to include any of them here. Many of these no doubt can be fitted to music by some of our eminent artists.

Anupa-Ankusha

This is comparatively a small work. In the sruti-svara prakarana the author says:—

सरिगमाः पधौ नीति सरिगमाः पधौ नि च ।
सरिगमाः पधौ नीति स्थानत्रयमिदं जगुः ॥
प्रथमं सप्तकं मंद्रं द्वितीयं मध्यमं स्मृतम् ।
तृतीयं तारसंज्ञं स्यादेवं स्थानत्रयं मतम् ॥
मंद्रादर्थं तु मध्यं स्यान्मध्यार्थं तारसप्तकम् ।
उच्चोच्चसंज्ञोच्चस्वाकाशे भवतिस्फुटम् ॥

सममागमकस्योऽन न ताषु मन्यते पुर्थः ।
 तस्माद्भावास्तुविद्यमाः कल्पिता मरतादिभिः ॥
 षट्षष्टिगाः श्रुतयोऽप्यत्र स्थुस्थानत्रयममागमे ।
 द्वाविंशतिप्रमेदेन संस्था द्वाविंशतिर्मता ॥

The sruti is defined thus—

स्वरूपमात्रध्वनाच्चादोऽनुगणनं विना ।
 श्रुतिरित्युच्यते भेदास्तस्या द्वाविंशतिर्मताः ॥

The ancient writers are fond of defining the sruti as a sound devoid of "anuranan". When a shruti has the "anuranan" added to it, it becomes a swara. I do not think they had any clear notion of this fine distinction. This leads to the question what is "anuranan". Some of our modern scholars, read the modern "harmonics" into that ancient term. I do not think, of course their view is right. The ancients so far as could be judged from their writings had no knowledge of our modern harmonics, "Anuranan" according to them was nothing more than a prolonged or sustained note. Pandit Kallinatha I think, in one place calls it "pratidhwani". In the vadyadhyaya while describing the different "guna's or qualities of वद्य प्रकरण in the दूरतर Sharangdeva says —

यिञ्जता घनता रतिर्न्यक्तिः प्रचुरता ध्वनेः ।
 छात्रिल कीमलत्व च नादानुरागन तथा ॥
 निरन्धानत्वं आवकत्वं माधुर्यं सखचानता ।
 द्वादशेति गुणाः प्रोक्ताः कृत्स्नरे सुविशर्जिता ॥

Kallinath explains the "anuranan" referred to here in his commentary on the Ratnakara, at page 251. A 'nada' accompanied by its "anuranan", he calls सुखननाद. And says—

सङ्गस्तु तैत्थपापत्त अचिद्धो धीरसमन्तः । रनाकरे ।

This evidently is not what we understand by the modern Harmonics.

In the Raga Adhyaya of the Sangeeta Anupankusha, Bhava Bhatta adopts the classification of the ragas given in the Sangeeta Darpana and without taking the least trouble to solve these ragas according to the definition given in that book, cites under each raga, the opinions of Sangeeta Panjara, Hridaya Prakasha and Raga Manjari. This is no doubt unpardonable and even misleading. But we do not know what the motive of the author really was in resorting to this procedure and so can give no further explanation. To illustrate—

श्रीमञ्जनार्दनं नत्वा संगीतार्थफलप्रदं ।
 तन्मते भावमष्टेन रागालपनमंजरी ॥
 भैरवः कौशिकश्चैव हिंदोलो दीपकस्तथा ।
 श्रीरागो मेघ रागश्च पङ्कते पुरुषाः स्मृताः ॥
 मध्यमादिभैरवीच वंगाली च वराटिका ।
 सैधवी पंचमी प्रोक्ता भैरवस्य वरांगनाः ॥
 टोडी खंवावती गौडी गुणक्री ककुमा तथा ।
 मालकौशिकरागस्य योपितः पंच कीर्तिताः ॥

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अथ भैरवः ।

पारिजाते—भैरवे तु रिपौ नस्तौ धादिमे न्यासमध्यमे ।
 तथोक्तौ तु गनी तत्रौ कोमलो धैवतः स्मृतः ॥
 हृदयप्रकाशे—संपूर्णो भैरवः प्रोक्तो गांधारादिक मूर्च्छनः
 मंजर्याम्—रिहीनो भैरवः सत्रिः प्रातर्गेयो मुनीश्वरैः ॥

अथ मध्यमादिः ।

पारिजाते—मध्यमादौ धगौ नस्तौ मूर्च्छना मध्यमादिका
 तत्र त्वंशस्वराः प्रोक्ता रिमनयो मुनीश्वरैः ॥
 सत्रिः प्रातरसौ गेया रिधास्त मध्यमादिका ॥
 हृदयप्रकाशे—मध्यमादिगेहीनत्वात् षाडवा मध्यमादिका ॥

This procedure is most ridiculous. It certainly is not such as would enhance the reputation of a scholar, who adds to his name the title of "Anushtupa-Chakravarti-Sangeeta-Rai".

Many of these definitions will be contradictory and leave the reader at sea.



SWARA-MELA-KALANIDHI

Having finished the leading ancient authorities on the Northern system of Music, we shall now turn our attention to those of the Southern system. So far as I can judge, there are only five of them which deserve special attention and these are —

रंहरमेल कलानिधि, रागविबोध, संगीतसारामृत, चतुर्दशप्रकाश and रागलक्षणम्

It is rightly claimed by the southern musicians that their music has kept a faithful touch with their ancient works. I do not think they claim that they sing the music of Sharangdeva now. But I do believe they will be in a position to show that their music has a long tradition of three or four centuries behind it. Some of their ragas, I am told, have lately got mixed up with our northern ones. But these do not affect the great system which they have inherited from their ancient writers. The first southern work which we shall take up for discussion will be the Swara-Mela-Kalanidhi. This book was written by Rama Amatya in shaka year 1472 corresponding with 1550 A.D. The date of the work as given by the author is as follows —

साके नेत्रधरापराङ्घ्रिधरणीगण्येऽथ साधारणे ।

इदं भाषणमपि निर्मलतरे पक्षे दृश्यते तिथौ ॥

According to this the actual date comes to be Shravan Shuddha 10th, of the year named SADHARANA. The work, therefore, is more than 350 years old. Barring the commentary of Kallinatha on the Sangeeta Ratnakara, no other complete work is at present available to show the development of music between the Ratnakara and the Swara Mela Kalanidhi, and we are therefore not in a position to say anything definite about the music of that period. There is, however, some evidence in the commentary of Kallinath to show that he was a southern musician and that his music system was not different from that of Rama Amatya, and the other subsequent writers. We shall come to that point after we finish with the Swara Mela Kalanidhi. Rama Amatya divides the book into five chapters, namely :

(१) उपोद्घात प्रकरण (२) स्वर प्रकरण (३) गाना प्रकरण (४) मेल प्रकरण (५) रागप्रकरण.

In the swara-prakaranam, the author after dividing music into the two divisions "gandharav" and "gana", defines these technical names thus :

अनादिसंप्रदायं यद्वर्धैवैः संप्रयुज्यते ।
नियतं श्रेयसो हेतुस्तद्गां धर्वं प्रचक्षते ॥
यत्तु वाग्गेयकारेण रचितं लक्षणान्वितम् ।
देशीरागादिषु प्रोक्तं तद्वानं जनरंजनम् ॥

Translation.—“Gandharva” music is the music that has come down to us from times immemorial. Its only object is the salvation of man. It is sung and played by the Gandharvas (celestial Musicians) only. The music which is composed by our learned men and which has modern rules and which is expressed in deshi ragas is called “gana”. It is intended to please men.

Observation.—The suggestion is that all the ragas which we now sing will be “deshi” music only and not “margi”. The rules of “gandharva” music were most rigid and could never be violated. Not so the rules of “gana” music.

तत्र लक्ष्माणुरोधेन गांधर्वं संप्रयुज्यते ।
यत्र लक्ष्मपरित्यागे प्रत्यवायो न विद्यते ॥
तस्माद्भक्ष्यप्रधानं तच्चतु लक्ष्मप्रधानकम् ।
परित्यागेऽत्र लक्ष्यस्य रजनं नैव जायते ॥
तस्माद्भक्ष्याणुरोधेन गानं लोके प्रवर्तते ॥

The author has evidently taken this distinction between Gandharva and gana from the Ratnakara. Sharangdeva in the Vadyadhyaya of his Ratnakara says :—

यद्वा लक्ष्यप्रधानानि शास्त्राण्येतानि मन्वते ।
तस्माद्भक्ष्यविरुद्धं यत्तच्छास्त्रं नेयमन्यथा ॥

The author then proceeds to the twenty two srutis and the seven shuddha swaras. He does not name the srutis. The distribution between the srutis and the swaras is the old one.

तत्र तुर्यश्रुतौ षड्जः सप्तम्यांमृषभो मतः ।
ततो नवम्यां गांधारस्त्रयोदश्यां तु मध्यमः ॥
पंचमः सप्तदश्यां तु धैवतो विंशतिश्रुतौ ।
द्वाविंश्यां तु निषादः स्यात् श्रुतिष्वित्थं स्वरोद्भवः ॥
एते षड्जादयः सप्तस्वराः शुद्धाः प्रकीर्तिताः ।
विकृताश्चैव सप्तैवेत्येवं सर्वे चतुर्दश ॥

Rama Amatya recognises seven shuddha and seven vikrita swaras. The importance of this work to the music scholar lies in the

fact that Rama Amatya tries to connect some of his ideas with those of Sharangdeva. About his vikritas, Rama Amatya says as follows. He anticipates the question and answers it thus.—

ननु रत्नाकरे साङ्गदेवेन विहताः स्वराः ।
द्वादशोक्ता इव ते तु सप्तैव कथितास्त्वया ॥

Translation—Sharangdeva Pandit in his Ratnakara lays down twelve vikrita notes. How do you say they are only seven? Answer—

सत्यं लक्षणतो मेदो द्वादशानामर्पायते ।
शुद्धेभ्यस्तत्र मेदस्तु सप्तानामेव लक्षितः ॥

Translation—True, technically speaking there will be twelve vikrita swaras, but there are as a matter of fact only seven vikritas really distinct from the shuddha swaras.

Observation—He means to say that the remaining five are only different names for the shuddha swaras.

The test of a vikrita, laid down by the author is—

अःकारमुत्तिसायागाद्व्यभिमेदः प्रकीर्तितः ॥

He then shows, how some of the vikrita swaras fail to satisfy the test, and need not be recognised as separate vikritas.

शुद्धवद्भाद्व्युत्तस्तु सवद्भ्यो नैव भिद्यते ।
अभ्युत्ता मध्यमः शुद्धमध्यमाश्च भिदा मजेत् ॥
शुद्धर्चमाश्च विहताः त्रिभ्यो न पृथग्वेत् ।
विहतो धैरतः शुद्धाद् भवतामतिरिच्यते ॥
मध्यमस्तुपादाने विहतः पञ्चमस्तु यः ।
विहताश्चैव पञ्चमाश्च मेदः चाभ्युते प्रुवत् ॥

It will not be permissible to go here into the reasoning of Rama Pandit, because we have omitted the Sangeeta Ratnakara from our present discussion.

The following chart will clearly show the positions of the shuddha and vikrita swaras of Rama Amatya.

श्रुतिनाम	शुद्ध स्वर	विकृत स्वरनाम	हिंदुस्थानी स्वरनाम	European
१ नीषा	...	कैशिक निषाद	कोमल निषाद	bB
२ रूपाङ्गी	...	काकळि निषाद	तीव्र निषाद	B
३ मंदा	...	स्मृतपञ्ज निषाद	नान्वतगनिषाद (if necessary)	
४ रंदाङ्गी	पञ्चम	...	शुद्ध पञ्चम	C
५ रयाङ्गी	...	...	...
६ रज्जगी	...	...	...
७ गविका	कयम	...	कोमल कयम	bD
८ तीव्र	...	...	...	D
९ गांधी	गांधार	पंचधुनि गंधार	तीव्र कयम	bE
१० गविका	...	गांधारप ग or पट-धुति रि	कोमल गांधार	E
११ प्रमागिणी	...	अंतर गांधार	तीव्र गांधार	
१२ प्रीति	...	स्मृतमध्यम गांधार	तीव्रतम गांधार (if necessary)	
१३ ताजनी	मध्यम	...	शुद्ध मध्यम	F
१४ क्षिति	...	...	...
१५ रजा	...	...	...
१६ रंदाङ्गी	...	स्मृतपंचम मध्यम	तीव्र मध्यम	F#
१७ आर्याङ्गी	पंचम	...	शुद्ध पंचम	G
१८ मंदती	...	...	...
१९ गंधिणी	...	...	...
२० मया	धैवत	...	कोमल धैवत	bA
२१ उमा	...	...	...
२२ क्षोगिणी	निषाद	पंचधुति धैवत	तीव्र धैवत	A
२ तीव्रा	...	कैशिक निषाद } पटधुति धैवत }	कोमल निषाद	bB
२ कुमुदती	...	काकळी निषाद	तीव्र निषाद	B
इ. इ.				

With the help of this chart, the following descriptions of the vikṛita swaras could be easily followed

सप्तानां विवृतानां तु सोऽयं लक्ष्य चक्रमहे ।
 व्युत्पद्मश्च पुनो मध्यमः स्यात् पञ्चमस्तथा ।
 स्यात् साधारणगाधारोऽनर्गाधार एव च ।
 स्यात् कैश्चिन्निषादोऽप्यन्यः शकृदि निषादकः ॥

These are, says the author, the real seven vikṛita swaras of Ratnakara. His own vikṛitas, corresponding with these would be the following :—

व्युत्पद्मश्चरवरो लक्ष्ये निषादत्वेन कर्णितः ।
 व्युत्पद्मश्च निषादाभिधानं तस्य विधीयते ॥
 व्युत्तरस्य मध्यमस्यपि गाधारव्यवहारतः ।
 व्युत्तमस्य मगाधारमहाऽश्म क्रियते मया ॥
 व्युत्तपञ्चममाचष्टे लोचनं मध्यममस्तथा ।
 अस्माभिः कथ्यते सोऽयं व्युत्तपञ्चममध्यमः ॥

Rama retains the remaining four Vikṛit names साधारण गाधार, अंतर गाधार, वैशिक नि & शकृदी निषाद.

Following the modern practice, he gives some parallel names for some of his vikṛitas.

लक्ष्येऽयं कुचविष्णुदगाधारस्थानमाधयत् ।
 कथमकर्णितेऽस्माभिः पञ्चभुतुर्माधयः ॥
 स साधारणगाधारस्थानस्यो रिषमो यदि ।
 लक्ष्यानुसारतः श्रोतस्वतः पदभुतिरेव सः ॥

The same reasoning is to apply to the note dhaivata. Thus four new names come in. Namely :—(१) पञ्चभुति कथम, (२) पदभुति कथम, (३) पञ्चभुति धैवत & (४) पदभुति धैवत. It will, however, be seen that these new swara names do not really increase the number of the vikṛitas, because they are only other names for the old swaras. The fourteen swaras of Rama Amatya, therefore, are :—

श्रुतिनाम	शुद्ध स्वर	विकृत स्वरनाम	हिंदुस्थानी स्वरनाम	European
१ तीव्रा	...	कैशिक निषाद	कोमल निषाद	bB
२ कुमुदती	...	काकलि निषाद	तीव्र निषाद	B
३ मंदा	...	च्युतपड्ज निषाद	तीव्रतमनिषाद (if necessary)	.
४ छंदोवती	पड्ज	...	शुद्ध पड्ज	C
५ दयावती	...	...
६ रंजनी	...	...
७ रक्तिका	ऋषभ	...	कोमल ऋषभ	bD
८ रौद्रा	...	...		D
९ क्रोधी	गांधार	पंचश्रुति रिषभ	तीव्र ऋषभ	bE
१० वज्रिका	...	साधारण ग or पट् श्रुति रि	कोमल गांधार	E
११ प्रसारिणी	...	अंतर गांधार	तीव्र गांधार	F
१२ प्रीति	...	च्युतमध्यम गांधार	तीव्रतम गांधार (if necessary)	
१३ मार्जनी	मध्यम	...	शुद्ध मध्यम	F
१४ क्षिति	...	...
१५ रक्ता	...	...
१६ संदीपिनी	...	च्युतपंचम मध्यम	तीव्र मध्यम	F#
१७ आलापिनी	पंचम	...	शुद्ध पंचम	G
१८ मर्दती	...	...
१९ रोहिणी	...	...
२० रम्या	धैवत	...	कोमल धैवत	bA
२१ उग्रा	...	...
२२ क्षोभिणी	निषाद	पंचश्रुति धैवत	तीव्र धैवत	A
१ तीव्रा	...	कैशिक निषाद	कोमल निषाद	bB
२ कुमुदती	...	पट्श्रुति धैवत काकली निषाद	तीव्र निषाद	B
इ. इ.				

With the help of this chart, the following descriptions of the vikṛita swaras could be easily followed.

सप्तानां विहृतानां तु सार्वत्र लक्ष्म चक्षुदे ।
 अमुतपद्मजम्भुनाममममुतःस्यात् पचमस्तथा ।
 स्यात् साधारणगंधारोऽन्तरगंधार एव च ।
 स्यात् वैशिकनिषादोऽपान्य- वाकलिनिषादकः ॥

These are, says the author, the real seven vikṛita swaras of Ratnakara. His own vikṛitas, corresponding with these would be the following :—

अमुतपद्मजम्भु लक्ष्म निषादत्वेन कर्तितः ।
 अमुतपद्मजनिषादाभिधानं तस्य विधीयते ॥
 अमुतरथ मध्यमस्यापि बाधितम्यत्रहारतः ।
 अमुतमध्यमगंधारसङ्गादस्म किपते मया ॥
 अमुतपंचममाचष्टे लोका मध्यममज्ञया ।
 अस्माभि कथ्यते मोऽयं अमुतपंचममध्यमः ॥

Rama retains the remaining four Vikṛit names साधारण गंधार, अंतर गंधार, वैशिक नि & वाकली निषाद.

Following the modern practice, he gives some parallel names for some of his vikṛitas,

लक्ष्मोऽयं कुत्रचित्पद्मगंधारस्थानमाश्रयन् ।
 कथम-कर्तव्येतेऽस्माभिः पंचश्रुत्युपमादयः ॥
 स साधारणगंधारस्थानरथो विपमो यदि ।
 लक्ष्मणानातः प्रोत्तरतः पदश्रुतिरेव च ॥

The same reasoning is to apply to the note dhavata. Thus four new names come in. Namely — (१) पंचश्रुति कथम (२) पदश्रुति कथम, (३) पदश्रुति विपम & (४) पदश्रुति धैर्य.

It will, however, be seen that these new swara names do not really increase the number of the vikṛitas, because they are only other names for the old swaras. The fourteen swaras of Rama Arastya, therefore, are :—

स्वरमेल कलानिधि स्वर	हिंदुस्थानी स्वर	European
(१) शुद्ध पङ्ज	शुद्ध पङ्ज	C
(२) शुद्ध ऋषभ	कोमल ऋषभ	bD
(३) शुद्ध गांधार or पंचश्रुति ऋषभ	तीव्र ऋषभ	D
(४) साधारण गांधार or षट्श्रुति ऋषभ	कोमल गांधार	bE
(५) अंतर गांधार	तीव्र गांधार	E
(६) च्युत मध्यम गांधार	Not necessary	
(७) शुद्ध मध्यम	शुद्ध मध्यम	F
(८) च्युत पंचम मध्यम	तीव्र मध्यम	F#
(९) शुद्ध पंचम	शुद्ध पंचम	G
(१०) शुद्ध धैवत	कोमल धैवत	bA
(११) शुद्ध निषाद or पंचश्रुति धैवत	तीव्र धैवत	A
(१२) कैशिक निषाद or षट्श्रुति निषाद	कोमल निषाद	bB
(१३) काकली निषाद	तीव्र निषाद	B
(१४) च्युत पङ्ज निषाद	Not necessary	

I have already suggested that the music system which Kallinath, the commentator on the Sangeeta Ratnakara followed was very nearly the same which Rama Amatya and his successors followed later on. In proof of this statement, I would cite the commentary of Kallinath on the Shri Raga of Sharangdeva. There Kallinath says :—

इदानीमधुनाप्रसिद्धरागांगादीनां लक्ष्ये प्रतीतानां लक्षणविरोधानां परिहारार्थमुद्यमः क्रियते । तत्र विरोधाद्भावनाप्रकारस्तावत् । ग्रामद्वयाख्यादिपरंपरयोत्पन्नानामेतेषां रागाणां मध्यस्थानस्थपङ्ज मध्यमस्थानयोरेव तत्तन्मूर्च्छनारसंपक्षाश्रयेण शास्त्रविहिते संभवत्यपि, मध्यमग्रामोत्पन्नानां मध्यमादितोडो प्रभृतीनां च मध्यममध्यमारं विहाय मध्यपङ्जस्थाने एव आरंभो लक्ष्यलक्षणविरुद्धः । तथा ग्रहस्वराय-
 चोत्तरस्वराणामभावात् । त्रिचतुःश्रुतिकत्वेन ग्रामद्वयसंवेदकस्य पंचमस्यालौप्यत्वेन प्रयुज्यमानस्यापि सर्वं रागेष्वेकरूपता । क्रियांगरामक्रियायां मध्यमस्य पंचमश्रुतिद्वयाक्रमणं, नट्टदेवकीप्रभृतिषु ऋषभ धैवतयोरन्तरकाकल्यादिमश्रुतिद्वयाक्रमणेन त्रिश्रुतित्वे शास्त्रविहितेऽपि पङ्जमध्यमयोरशास्त्रविहित त्रिश्रुतित्वकरणेन कैशिकयोरवैशम्यम् । तत्रापि ऋषभधैवतयोरगांधारनिषादादिमश्रुत्याक्रमणेन प्रत्येकं चतुःश्रुतित्वं वा शास्त्रविहितम् । आध्यात्म्या लक्षणे पंचमस्य ग्रंथोक्तत्वेत्या तथैव प्रस्तारे लिखितेऽपि

लक्ष्ये मध्यमग्रहांतलेन प्रयोगः ॥ कर्पोटगौडस्य लक्षणे षड्जग्रहांतलोत्तमो लक्ष्ये निषाद ग्रहांतले ।
 मानांगे तु द्विदोलस्य लक्षणेऽप्यक्तनेनोक्तविषयागेन प्रयोगः । वादवाद्देव्यपि रागेषु वृषिर्होष्य
 स्वर प्रयोगः । ऋषिजन्यजनकयोर्मेलन मेद, रसादि विनियोगनियमः ।

The rest of the commentary is unnecessary for our purpose. The portion cited here shows that only one grama was practically recognised in the time of Kallinath. All the murchhanas were started from the madhya shadja. The difference of the two panchamas ■ the two gramas was ignored. In the definition of Shri raga, although shuddha ga and shuddha ni moved one sruti higher, the next following notes ma and ri remained stationery and thereby violated the shastra rule which says that in such a case they must become chryta. In the case the ri and dha remain चतुःश्रुतिक but move one sruti up. All this indicates to a careful student the fact that Kallinath followed a system not unlike the one followed by Rama Amatya and Somnath (Quære — Was the music of the Sangeeta Ratnakara actually practised in Kallinath's time? Did he fully understand it? He wrote his commentary nearly two hundred years later. We all know that Kallinath was in the service of Raja Deva, Raja of Vijayanagar, about 1412-1425 A.D. and wrote his commentary at the request of his patron.)

In the second chapter or prakarana, Rama Amatya describes his vina with his shuddha and vikrita swaras. The following chart will clearly show how the four wires of the vina were tuned and how the frets were placed under them. —

शु. म	शु. सा	शुद्ध प	शुद्ध मा	मेद or Bridge
पुनर्वचम म	शु. री	शु. ध	शु. री	प्रथम सारी
शु. प	शु. ग	शु. नि	शु. ग	द्वितीय सारी
शु. ध	साधारण ग	कैसिक नि	साधारण ग	तृतीय सारी
शु. नि	पुनर्वचम ग	पुनर्वच नि	पुनर्वचम ग	चतुर्थ सारी
कैसिक नि	शुद्ध म	शु. सा	शु. म	पंचम सारी
पुनर्वच नि	पुनर्वचम म	शु. री	पुनर्वचम म	षड्ठी सारी
मंद म तंत्री	मंद सा तंत्री	अ. मंद प तंत्री	अनु मंद सा तंत्री	
(४)	(३)	(२)	(१)	

The tuning of the wires is described in the following

आद्यायां स्थापयेत् पञ्चमनुमंदाभिधानकम् ।
 अनुमंदाः पञ्चमस्तु द्वितीयायां निवेशयेत् ॥
 तृतीयायां तंत्रिकायां मन्द्रपञ्चं प्रयोजयेत् ।
 कल्पयेत् स्वरं तंत्र्यां चतुर्थ्यां मन्द्रमध्यमम् ॥

The Swaras produced by the six frets are described thus :—

आद्यानुमंद्रपञ्चास्त्यतंत्र्यां शुद्धर्यमो यथा ।
 स्थापथा सारिका स्थाप्या प्रथमाथ द्वितीया ॥
 तंत्र्यां शुद्धगांधारसिर्ष्य स्थाप्याच सारिका ।
 तृतीया सारिका स्थाप्या पूर्वतंत्र्यां यथा स्फुटम् ॥
 स्थाप्या साधारणाधारः स्थाप्या सारी चतुर्थिका ।
 पञ्चममध्यमगांधारः पूर्वतंत्र्यां यथा भवेत् ॥
 मन्द्रमध्यमसिर्ष्यं पञ्चमी सारिका ततः ।
 निवेश्या पूर्वतंत्र्यां षष्ठा स्थाप्याथ सारिका ॥
 यथा व्यक्तस्तथा तंत्र्या पञ्चममध्यमः ॥ इ. इ. इ.

The notes produced by the different wires on the six frets are clearly seen in the diagram, and so it is not necessary to cite the remaining verses here. Nor is any translation of the above cited verses necessary.

In the mela prakarana, Pandit Rama Amatya lays down altogether twenty thatas for the classification of his janya-ragas. The twenty thatas with their shuddha and vikrita swaras are as follows :—

तत्तद्रागप्रधानत्वान्मेलान् वक्ष्ये क्रमादिमान् ।
 सर्वेषु रागमेलेषु मुखारिमेल आदिगः ॥
 ततोमालवगौळस्य मेलः श्रीरागमेलकः ।
 सारंगनारमेलश्च मेलो हिंदोलकस्य च ॥
 शुद्धरामक्रियामेलो देशाक्षामेलकोऽपरः ।
 मेलः कषटगौळस्य शुद्धनाट्याश्च मेलकः ॥
 आहरीमेलकश्चैव नादरामक्रियापरः ।
 मेलः शुद्धवराळ्याश्च रीतिगौळस्य मेलकः ॥
 वसंतमैरवीसंज्ञो मेलकस्तु प्रकीर्तितः ।
 केदारगौळमेलश्च हेब्रुजामेलकस्ततः ॥
 मेलः सामवराळ्याश्च रेवगुप्तेश्च मेलकः ।
 सामंतनाममेलश्च कामोजामेलकस्ततः ॥

मेलनाम		मेलगत स्वराः						हिंदुस्थानी स्वराः
	सा	री	ग	म	प	ध	नि	
१ मुखारी	शुद्ध	शुद्ध	शुद्ध	शुद्ध	शुद्ध	शुद्ध	शुद्ध	सा री ग म प ध नि सा
२ मालवगौळ	"	"	प्युत मध्यम	"	"	"	प्युत-पद्मजनि	सा री ग म प ध नि सा
३ धी	"	पंच-ध्रुति	साधा-रण	"	"	पंच ध्रुति	वैशिक	सा री ग म प ध नि सा
४ मारगनाट	"	"	प्यु. म गा.	"	"	"	प्युत-पद्मज	सा री ग म प ध नि सा
५ हिंदोल	"	"	साधा-रण	"	"	शुद्धप	वैशिक	सा री ग म प ध नि सा
६ शुद्धरामकिया	"	शुद्धरी	प्युतम.	प्युत-मध्यप	"	"	प्युत-पद्मजनि	सा री ग म प ध नि सा
७ देशाक्षी	"	बट ध्रुति	"	"	"	पंच ध्रुति	"	सा ग री म प ध नि सा
८ कनकगौळ	"	"	"	"	"	"	वैशिक	सा ग री म प ध नि सा
९ शुद्धनाट	"	"	"	"	"	बट ध्रुति	प्युत-पद्मज	सा ग री म प ध नि सा
१० आहरी	"	पंच ध्रुति	साधा-रण	"	"	शुद्धप	"	सा री ग म प ध नि सा
११ नादरामजी	"	शुद्धरी	"	"	"	"	"	सा री ग म प ध नि सा
१२ शुद्धबराळी	"	"	शुद्ध	प्युतप	"	"	प्युत-पद्मज	सा री ग म प ध नि सा
१३ रीतिगौळ	"	"	"	शुद्ध	"	पंच ध्रुति	वैशिक	सा री ग म प ध नि सा
१४ वसंतभैरवी	"	"	प्युत-म. ग	"	"	शुद्ध	"	सा री ग म प ध नि सा
१५ केदारगौळ	"	पंच ध्रुति	"	"	"	पंच ध्रुति	प्युत-पद्मज	सा री ग म प ध नि सा
१६ हिमाली	"	शुद्ध	अंतर	"	"	शुद्ध	काकडी	सा री ग म प ध नि सा
१७ सामवराळी	"	"	शुद्ध	"	"	"	"	सा री ग म प ध नि सा
१८ रेवगुप्ती	"	"	अंतर	"	"	"	शुद्ध	सा री ग म प ध नि सा
१९ सामत	"	बट ध्रुति	"	"	"	बट ध्रुति	काकडी	सा ग री म प ध नि सा
२० क्रीमांजी	"	पंच ध्रुति	"	"	"	पंच ध्रुति	"	सा री ग म प ध नि सा

मेलनाम	जन्य रागाः
१ मुखारी	१ मुखारी
२ मालवगौड	१ मालव गौड, २ ललिता, ३ बौली, ४ सौराष्ट्र, ५ शुर्जरी, ६ मेचवौली, ७ फलमंजरी, ८ गुंडकी, ९ सिंधुरामकी, १० छायागौळ, ११ कुरंजी, १२ कंनड बंगाल, १३ मंगल कैशिक, १४ मलहरी.
३ श्री...	१ श्रीराग, २ भैरवी, ३ गौळी, ४ धन्यासी, ५ शुद्ध भैरवी, ६ वेलावली, ७ मालवश्री, ८ शंकराभरण, ९ आंधाली, १० देवगांधार, ११ मध्यमादि.
४ सारंगनाट	१ सारंगनाट, २ सावेरी, ३ सालंग भैरवी, ४ नटनारायणी, ५ शुद्धवसंत, ६ पूर्वगौड, ७ कुंतलवराळी, ८ मिन्नपड्ज, ९ नारायणी.
५ हिंदोल	१ हिंदोल, २ मार्गहिंदोल, ३ भूपाल.
६ शुद्धरामकी	१ शुद्धरामकी, २ बौली, ३ आर्द्रदेशी, ४ दीपक.
७ देशाक्षी	१ देशाक्षी.
८ कंनडगौळ	१ कंनडगौळ, २ घंटारव, ३ शुद्धबंगाल, ४ छायानट, ५ तुरस्कतोडी, ६ नागध्वनि, ७ देवक्रिया.
९ शुद्धनाट	१ शुद्धनाट
१० अहीरी	१ अहीरी
११ नादरामकी	१ नादरामकी
१२ शुद्धवराळी	१ शुद्धवराळी
१३ गौळ	१ गौळ
१४ वसंत भैरवी	१ वसंत भैरवी
१५ केदारगौळ	१ केदारगौळ, २ नारायणगौळ
१६ हेचुञ्जी	१ हेचुञ्जी
१७ सामवराळी	१ सामवराळी
१८ रेवशुषी	१ रेवशुषी
१९ सामंत	१ सामंत
२० कामोजी	१ कामोजी

The author then mentions an interesting difference of opinion as to the number of रागजनक Thatas. He says:

लक्षिता विंशतिर्मेला गाने स्युर्मिमिता अमी ।
 पक्षद्वयं तु बीणायां वक्ष्यते लक्ष्यसमतम् ॥
 ग्राह्यार्दतरकाकस्थोः स्वरूपे पृथक् पृथक् ।
 पक्षोऽयं प्रथमस्तत्र मेलाः स्युर्विंशतिर्भुवम् ॥
 अंतरस्य च काकस्थाः स्थाने प्रतिनिधिः कमान् ।
 श्रुतमस्यमगाधारम्युतवद्भ्रान्निषादकः ॥
 अयं द्वितीयः पक्षोऽयं मेला पचदशमृताः ।
 अत्र प्रतिनिधेः पक्षे मुलारीपेल पूर्वकाः ॥
 केदारगौळमेलान्ता मेलाः पचदश स्मृताः ॥
 एतदेवाभिव्याय कथितं शार्ङ्गसुरिणा ।
 अस्वप्नयोगः सर्वत्र काकली चांतरस्वरः ॥

Translation—Thus I have described the twenty Thatas of the Vocal musicians. Now I shall state the two opinions of the Vainikas. Those who belong to the first पक्ष (party) say that the notes अंतर & काकली should be recognized as independent Swaras & the number of Thatas should accordingly be accepted as twenty. Those who belong to the second पक्ष say that the notes श्रुत मस्यम गाधार & श्रुत वद्भ्रान्निषाद should be recognized as good representatives or substitutes for the notes अंतर & काकली, and the number of Thatas should be fifteen only. According to these last the list of Thatas given in the book should stop at केदारगौळ, which is the fifteenth Thata. They go further & argue that even Sharangadeva, the author of the Sangeet Ratnakara, meant the same thing when he said that the notes अंतर & काकली should always be used sparingly.

Observation—It must in fairness be stated that Sharangadeva pandit though he does give that advice, does not expressly say that श्रुत म & श्रुत ण should be used as substitutes for the अंतर & काकली notes. In his own Raga definitions he says nothing about the श्रुत Swaras but freely uses अंतर & काकली. Rama Amatya says nothing in explanation of that in his Swaramelakalanidhi.

RAGA-VIBODHA

The author of this Sanskrit work is Pandit Somnath of the Andhra country. The date of the work as given by the author is the shaka year 1531, corresponding with 1610 A.D. It is considered to be a work of great interest in the Southern presidency. There are several features of the work however, which will make its study no less interesting to the Northern Musician. A careful perusal of the book will lead the reader to conclude that the author at some period of his life had come into contact with the music and musicians of northern India. A mere glance at the table indicating the shuddha and vikrita swaras of Somnatha, will be enough to show it. The names and descriptions of the ragas again will further support the view. In the Raga Vibodha, the reader will find some distinctly Persian Raga names, such as Husseini, Navroj, Zeeluf, Erakh, and so forth, referred to.

The important points in connection with this work for consideration will be :—

- (1) How many out of the 22 srutis did Somnath use as swaras in his ragas.
- (2) How did he place his shuddha and vikrita swaras on the srutis.
- (3) How many thatas did he use for the classification of his ragas.
- (4) What was his classification of the janya ragas.
- (5) Will any of his raga definitions be useful for the Northern musician.

I may state at the very outset that Somnath like all his predecessors whether southern or northern recognised the wellknown twenty two srutis, which again were the same as those of the older writers. The orthodox rule for the location of swaras on the srutis, was also accepted by him. He says :—

षड्जर्षमगांधारा मध्यमपंचमकधैवत निषादाः ।
इत्यमिधास्त्वमीषां स रि ग म प ध नी ति संज्ञान्याः ॥
तेषांश्रुतयः क्रमतो वेदा रामा दशौ तर्थाबुधयः ।
निगमा दहनाः पक्षा एवं द्वाविंशतिः सर्वाः ॥

These verses speak for themselves, and we need not discuss them any further. The placing of the shuddha swaras is described thus :

तुर्वाया सप्तम्या तासु नवम्या ध्रुवी त्रयोदश्याम् ।

सप्तदशी विंशद्वाविंशतु च ते रुद्राः क्रमतः ॥

Evidently, 4, 7, 9, 13, 17, 20, 22, were also the "adhara-srutis" of the shuddha swaras of Somnath. The method adopted by Somnath for placing the twenty two srutis on the key board of the vina, differed from that of Sharangdeva pandit. The latter put twenty-two separate wires each representing a sruti, on his vina. Somnath put twenty two frets under the wires of his vina and made them produce the intended twenty two srutis. The principle of determining the sruti was the same in both cases. The whole length of the wire produced the fundamental note 'mandra-shadja', and the frets below the wire produced the remaining srutis when the wire was pressed against them.

सप्ततम्यनिराया त्रयं क्रमोच्चस्वनं किञ्चित् ।

न्यस्याः सप्तमाः सार्वोऽथ द्वाविंशतिरपञ्चमस्तथाः ॥

तन्त्री यथेयमुच्चोच्चतराया किमपि तासु स्यात् ।

सप्तनेष्टोऽप्यथः ध्रुतयः इति रथा इति तदर्थं सः ॥

कथमनुत्तरीयतायां ६. ६. ६.

"यनानुच्चानिः," "मन्ये विस्तरा ज्यस्तर न स्यात्तथा."

These points of Bharata and Sharangdeva were strictly followed by Somnath also. We cannot say for certain whether or not he understood their real significance. Perhaps he did not. The verses may be translated thus:—The first wire should be tuned to the lowest possible pitch, and it will be the first sruti. The next three should be so tuned that each will be a little higher than the next preceding one. (Thus there would be four wires on the key board) Next place twenty two small frets under the fourth wire in such a way that each will produce a sound a little higher than that of the preceding one, care being taken to see that between any two consecutive sruti sounds, no dissimilar "dhvani", or sound is permitted to appear. (The author means to say that the ratio between any two consecutive sruti sounds should be the same all through.) The fourth wire will produce the sound of shadja. Among the frets, the third will produce rishabha, the fifth will produce gandhara and so forth. Compare the statement of Sharangdeva:—

आया सप्ततम्यनाना द्वितीयाच्चानिर्मनाम् ।

नैतथ्यं साप्ततम्योर्म्येभ्यस्तदुत्तरेः ॥

The reader can easily see from this that these ancient writers considered their srutis to be based upon a standard sruti ratio. In other words, they understood the srutis, to rise in pitch in geometrical progression.

Pandit Somnath then proceeds to locate his vikrita swaras thus :

इति सप्तोक्ताः शुद्धा विकृतान् सप्तैव वच्मि सहस्रान्ना ।

साधारणोत्तरश्च श्रुति श्रुती चेत्य गो मस्य ॥

Translation.—Having described the seven shuddha swaras in this way, I shall now mention the seven vikrita swaras in this way by their names. When shuddha gandhara takes the first sruti of 'ma' it becomes sadharana 'ga', and when it takes the second sruti of 'ma', it becomes antara 'ga'.

निःकैशिकी च काकल्यथ सस्यैका भजंश्च तां ते द्वे ।

निगमा मृदुपर समपाः समपतृतीयश्रुतिस्थित्या ॥

Translation.—When nishada takes the first sruti of shadja it becomes kaishika 'ni', and when it stands on the second sruti of shadja, it becomes kakali 'ni'. When the swaras 'ni', 'ga' and 'ma' rise to the third sruti of the next 'sa', 'ma', and 'pa', they become "mrdu sa", "mrdu ma" and "mrdu pa" respectively.

Observation.—The term "mrdu", it will be seen, corresponds with the term "chyuta" of Sharangdeva and Rama Amatya. Pundarika Vittala used the word "laghu" instead.

Somnath then discusses the twelve vikritas of Sharangdeva and tries to prove that in spite of the use of twelve separate swara names for the vikrita, Sharangdeva really used only seven vikrita swaras, which were the same as those he himself used. There were some more vikrita names in use in his time, and the author referring to them says :

रिषयोः परश्रुतिगतेश्चतस्र इह पंच षट् तथाश्रुतयः ।

देशीरागेषु अमिर्वीक्ष्यंते च षट् तथा गमयोः ॥

Translation.—In the modern or deshi music we sometimes come across 'ri' and 'dha' swaras with four five or six srutis. And these are known as चतुःश्रुतिक, पंचश्रुतिक, षट्श्रुतिक ऋषम & धैवत.

These notes are the result of 'ri' and 'dha' rising through the srutis of the next following notes गांधार & निषाद.

Observation.—चतुःश्रुतिक रि, पंचश्रुतिक रि & षट्श्रुतिक रि would naturally enter the intervals of gandhara and maddhyama. The reader will here ask "Are these new vikritas added to the seven already referred to by the author?" The answer is

इति तेषु संभवन्ति त्रयोऽन्या एभ्यो विलक्षणा विकृताः ।

पंचश्रुतिःशुचेर्गांधारात् साधारणतश्च षट्श्रुतिकः ॥

रिर्न पृथक् तादृग्यो नेः कैशिकिनश्च षट्श्रुतिर्गो मात् ।

किंतूक्त रिगधमानां व्यवहृतये पृथगिताः संज्ञाः ॥

Translation—No doubt three more vikṛta swaras will result from this arrangement, but it will be observed that pancha sruti 'ri' and zhat-sruti-ri are in no way different to shuddha 'ga' and sadharana 'ga' already noticed. The same observation will be made in the case of पंचश्रुतिक ग & वदश्रुतिक ग which are no other than the sounds of shuddha 'ni' and kashika 'ni'. Although this is so, it is convenient to retain these new swara names in practice. Somnath then compares these last named vikṛtas with those of the other music schools which use the vikṛta terminations 'tivra', tivratara', and tivratama'. He says

तीव्रश्रुतिरिति पञ्चश्रुतिकत्वं परं तीव्रतरः ।
वदश्रुतिकत्वं तीव्रतम इति परं ॥ यथायोग्यम् ॥

Translation—Tivra 'ri' is वदश्रुतिक रि, tivratara 'ri' ॥ पञ्चश्रुति रि and tivratama 'ri' is the same as वदश्रुतिक रि. The same reasoning applies to the case of dhaivata; but the author adds परं ॥ यथायोग्यम् that is, these vikṛtas cannot be used indiscriminately.

Observation—The commentary on these lines is rather interesting: परं तां यथायोग्यम् । गत्वा मत्स्यं च वदश्रुतिकं तीव्रतम इति एवैव सङ्गा, i.e. there will be no वदश्रुति ग & पञ्चश्रुति ग or च वदश्रुति ग is the same as अतर ग & पञ्चश्रुति ग is मृदु म.

These are independent names. These notes take no other संग्गा or names in practice. Then again वदश्रुति म is the shuddha 'ma' itself and पञ्चश्रुति म is never heard of in practice. वदश्रुति म is no doubt allowed but it will be called tivratara ma and not tivratama 'ma, which name would have been more proper. The reader may compare this reasoning with that of Lochana and Ahobala with advantage. The author defends these new संग्गा by citing a text from Ratnakara:—न च पूर्वोक्तं निगमानां समपनुरीवधुतिरप्यत्र निगमानां वदश्रुतिमत्त्वं च पुराणानामुक्तानां शास्त्रानां विरुद्धम्. According to Sharangdeva himself,—यद्गोलकप्रधानानि शास्त्राण्येतेषां नि । अर्थात् शास्त्राणामप्यप्यत्रापि लक्ष्यस्थानाय योजनम्. Somnath means to say that although the ancient authorities did not allow 'ni' 'ga' and 'ma' to rise upto the third srutis of their respective succeeding notes, the actual fact was that these vikṛtas were found in practice. That being so, their use must be justified by the उपसंहारनायक process. That is by saying that the old "mṛdu" places had only taken new names.

The author then further supports his argument by showing what other writers under similar situations did

वदश्रुतिकं च पञ्चश्रुतिकं च वदश्रुतिः ध्रुवा विधातव्यम् ।
साधविरुद्धाचारम्यास्तानि कर्तव्यावश्यादिभिः ॥

Pandit Somnath then proceeds to locate his vikrita swaras thus :

इति सप्तोक्ताः शुद्धा विकृतान् सप्तैव वच्मि सहस्रान्ना ।

साधारणोत्तरश्च श्रुति श्रुती चेत्य गो मस्य ॥

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निःकैशिकी च काकल्यथ सस्यैका भजंश्च तां ते द्वे ।

निगमा मृदुपर समपाः समपतृतीयश्रुतिस्थित्या ॥

Translation.—When nishada takes the first sruti of shadja it becomes kaishika 'ni', and when it stands on the second sruti of shadja, it becomes kakali 'ni'. When the swaras 'ni', 'ga' and 'ma' rise to the third sruti of the next 'sa', 'ma', and 'pa', they become "mrdu sa", "mrdu ma" and "mrdu pa" respectively.

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Translation.—In the modern or deshī music we sometimes come across 'ri' and 'dha' swaras with four five or six srutis. And these are known as चतुःश्रुतिक, पंचश्रुतिक, षट्श्रुतिक ऋषम & धैवत.

These notes are the result of 'ri' and 'dha' rising through the srutis of the next following notes गांधार & निषाद.

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पंचश्रुतिः शुचेर्गांधारात् साधारणतश्च षट्श्रुतिकः ॥

रिर्न पृथक् तादृगो नेः कैशिकिनश्च षट्श्रुतिर्गो मात् ।

किंतु रिगधमानां व्यवहृतये पृथगिताः संज्ञाः ॥

Translation—No doubt three more vikṛta swaras will result from this arrangement, but it will be observed that pancha sruti 'ri' and shat-sruti-ri are in no way different to shuddha 'ga' and sadharana 'ga' already noticed. The same observation will be made in the case of पंचश्रुतिक घ & षट्श्रुतिक घ which are no other than the sounds of shuddha 'ni' and kaushika 'ni'. Although this is so, it is convenient to retain these new swara names in practice. Somnath then compares these last named vikṛtas with those of the other music schools which use the vikṛta terminations 'tivra', tivratara', and tivratama'. He says

तीमन्नतुःश्रुतिष्वे पंचश्रुतिकत्वे एव तीमतरः ।

षट्श्रुतिकत्वे तीमतरम इति परं ता यथायोग्यम् ॥

Translation—Tivra 'ri' is चतुःश्रुतिक रि, tivratara 'ri' is पंचश्रुति रि and tivratama 'ri' is the same as षट्श्रुतिक रि. The same reasoning applies to the case of dhaivata; but the author adds परं ता यथायोग्यम् that is, these vikṛtas cannot be used indiscriminately.

Observation—The commentary on these lines is rather interesting; परं ता यथायोग्यम् । गत्य मस्य च षट्श्रुतिष्वे तीमतरम इति एकैव सङ्गा; १० there will be no चतुःश्रुति ग & पंचश्रुति ग or म चतुःश्रुति ग is the same as अंतर ग & पंचश्रुति ग is मृदु म.

These are independent names. These notes take no other संज्ञा or names in practice. Then again चतुःश्रुति म is the shuddha 'ma' itself and पंचश्रुति म is never heard of in practice. षट्श्रुति म is no doubt allowed but it will be called tivratara ma and not tivratama 'ma', which name would have been more proper. The reader may compare this reasoning with that of Lochana and Ahobala with advantage. The author defends these new संज्ञा by citing a text from Ratnakara:—न च पूर्वोक्तं निगमानां समपतुर्दीपश्रुतिरपत्तं रिचयमानां चतुःश्रुतिमत्त्वं च पुरातनानुक्तानां शास्त्रांतरं विरुद्धम्. According to Sharangdeva himself:—यद्वाल्मीकिप्रधानानि शास्त्राण्येतेतानि । अर्थात् शास्त्राणामप्येवमपि लक्ष्यरचयनाय शोक्तम्. Somnath means to say that although the ancient authorities did not allow 'ni' 'ga' and 'ma' to rise upto the third srutis of their respective succeeding notes, the actual fact was that these vikṛtas were found in practice. That being so, their use must be justified by the उपलक्षणन्याय process. That is by saying that the old "mrdu" places had only taken new names.

The author then further supports his argument by showing what other writers under similar situations did.

षट्श्रुतिकं म पंचश्रुतिके च चतुःश्रुती रिचयगदम् ।

रागविशेषाच्चायम्यास्याने कक्षिनायमुक्तिपि ॥

Translation.—The vikritas पट्श्रुतिग, चतुःश्रुतिरि, पंचश्रुतिरि, चतुःश्रुतधि, पंचश्रुतिध have also been mentioned by Pandit Kallinath in his commentary on the Ratnakara.

Observation.—The whole point of the discussion is this:—Music is a progressive science and art. It progresses with the taste and needs of the community. In deshi music, we cannot always pretend to stick to the old orthodox theories and rules. New technical expressions and new rules are bound to come in course of time, and we must be prepared to make room for them. The author points out that even Hanuman was of the same opinion:—

ग्रामश्रुतिस्वरादेरनियम उक्तो हनुमता येन ।
 देसी रागे येषां श्रुतिस्वरेत्यादि पदेन ।
 ग्रामो यद्वज्रमप्यमौ ।
 भुनयः यद्वजादिषु नियतास्तुरादयः ।
 स्वरा शुद्धविहृतदक्षणाः ।
 आदि सदेन पाठवैद्युवसंपूर्णत्वानि ग्रहांशादि जातयः ।

In all these matters, changes are bound to happen and we shall have to treat them with respect.

Having discussed the first two questions out of the five raised by us, we shall now proceed to give definite answers to them. Pandit Somnath uses fifteen vikrita swara-names, in all and these are:

१ तीव्र री	६ मृदु ग	११ तीव्रतर ध
२ तीव्रतर री	७ तीव्रतम ग	१२ तीव्रतम ध
३ तीव्रतम री	८ तीव्रतम म	१३ कैशिक नि
४ साधारण ग	९ मृदु प	१४ काकली नि
५ अंतर ग	१० तीव्र ध	१५ मृदु सा

Five of these will have to be rejected because they coincide with three vikrita and two shuddha swaras already counted. In other words they overlap these latter. Thus:—तीव्रतर रि, तीव्रतम रि, तीव्रतम ग, तीव्रतर ध, तीव्रतम ध are identical with शुद्ध ग, साधारण ग, शुद्ध ग, शुद्ध नि, कैशिक नि respectively. Real vikritas according to the Pandit are those notes which have independent sounds. The remaining ten being unobjectionable, it may be said that the system of Raga Vibodha is based on seventeen swaras, (seven shuddhas and ten vikritas) only. The following chart will clearly show how Somnath placed his swaras on the srutis.

	शुद्धस्वराः	विरटस्वराः	False Vikrits	Hindustani Swaras
१ तीव्रा	...	कैशिक नि	तद्विचलित म	बोमल नि ११
२ कुमुदती	...	काकडी नि	...	वीन नि १२
३ मंदा	...	मृदु सा	...	... (तद्विचलित नि)
४ लोकोत्तरी	सा	...	...	सा (१)
५ दयावती	...	...	...	...
६ रजनी	...	...	...	...
७ रक्तिका	री	...	...	बोमल री (२)
८ रौद्री	...	तीव्र री or चतुःश्रुति	...	...
९ क्रोधी	ग	...	तीव्रतर री	तीव्र री (३)
१० वज्रिणी	...	साधारण ग	तद्विचलित री	बोमल ग (४)
११ प्रमारिणी	...	अंतर ग	...	तीव्र ग (५)
१२ प्रीति	...	मृदु म	...	... (तद्विचलित ग)
१३ साजनी	म	...	तद्विचलित ग	म (६)
१४ क्षिति	...	...	...	...
१५ रत्ना	...	तद्विचलित म	...	तीव्र म (७)
१६ मदीपिनी	...	मृदु य	...	... (तद्विचलित म)
१७ आलापिनी	य	...	...	य (८)
१८ मंदती	...	...	...	...
१९ रोहिणी	...	...	...	...
२० रम्या	ध	...	...	बोमल ध (९)
२१ उमा	...	तीव्र ध=चतुःश्रुति	...	...
२२ शोभिणी	नि	...	तीव्रतर ध	तीव्र ध (१०)
	७	१०		

मेल नाम	सा	री	ग	म	प	ध	नि	Hindustani Equivalents
१ मुखारी	शुद्ध	शुद्ध	शुद्ध	शुद्ध	शुद्ध	शुद्ध	शुद्ध	सा री ग म प ध सा
२ रेव श्रुति	"	"	अंतर	"	"	"	"	सा री ग म प ध सा
३ सामवादी	"	"	शुद्ध	"	"	"	काकडी	सा री ग म प ध नि गा
४ तोड़ी	"	"	साधारण	"	"	"	कैशिक	सा री ग म प ध नि गा
५ नादरामजी	"	"	"	"	"	"	मृदुगा	सा री ग म प ध नि गा

मेल नाम	सा	री	ग	म	प	ध	नि	Hindustani Equivalents
६ भैरव	”	”	अंतर	”	”	”	कैशिक	सा री ग म प ध नि सां
७ वसंत	”	”	”	”	”	”	काकली	सा री ग म प ध नि सां
८ वसंत भैरवी	”	”	मृदुम	”	”	”	कैशिक	सा री ग म प ध नि सां
९ मालवगौड	”	”	”	”	”	”	मृदुसा	सा री ग म प ध नि सां
१० रीतिगौड	”	”	शुद्ध साधा-	”	”	तीव्रतर	कैशिक	सा री री म प ध नि सां
११ आभीरनाट	”	तीव्रतर	रण	”	”	शुद्ध	मृदुसा	सा री ग म प ध नि सां
१२ हमीर	”	”	मृदुम	”	”	”	”	सा री ग म प ध नि सां
१३ शुद्धरामकी	”	शुद्ध	” साधा-	तीव्रतम	”	”	”	सा री ग म प ध नि सां
१४ शुद्धवराटी	”	”	रण	”	”	”	”	सा री ग म प ध नि सां
१५ श्री	”	तीव्र	”	”	”	तीव्र	कैशिक	सा री ग म प ध नि सां
१६ कल्याण	”	तीव्रतर	”	मृदुप	”	शुद्ध	मृदुसा	सा री ग म प ध नि सां
१७ कांबोदी	”	”	अंतर	शुद्ध	”	तीव्रतर	काकली	सा री ग म प ध नि सां
१८ मञ्जारी	”	”	मृदुम	”	”	”	मृदुसा	सा री ग म प ध नि सां
१९ सामंत	”	तीव्रतम	अंतर	”	”	तीव्रतम	काकली	सा ग ग म प नि नि सां
२० कर्णाटगौड	”	”	मृदुम	”	”	तीव्र	कैशिक	सा ग ग म प ध नि सां
२१ देशाक्षी	”	”	”	”	”	तीव्रतर	मृदुसा	सा ग ग म प ध नि सां
२२ शुद्धनाट	”	”	”	”	”	तीव्रतम	”	सा ग ग म प नि नि सां
२३ सारंग	”	तीव्रतर	तीव्रतम	मृदुप	”	”	मृदुसा	सा री म म प नि नि सां

Explanatory Note

शुद्ध रि, ध = कोमल रि, कोमल ध

शुद्ध ग, नि = तीव्र रि, तीव्र ध

तीव्रतर री, } तीव्र री, तीव्र ध
तीव्रतर ध }

तीमत्तम रि, घ = कोमल ग, कोमल नि
 मृदु म, मृ-प, मृ. सा = accepted as तीम ग, तीम म, तीम नि
 केशिक नि = कोमल नि
 कश्चली नि = तीम नि
 साधारण ग = कोमल ग
 अतर ग = तीम ग
 For details refer to the chart of swaras.

मेढ नाम	जन्म राग नाम
१ पुष्पारी	१ पुष्पारी.
२ रेवगुप्ति	१ रेवगुप्ति.
३ सामवराळी	१ सामवराळी, २ वसंतवराळी.
४ सोढी	१ सोढी.
५ नादरामकी	१ नादरामकी.
६ मेरव	१ मेरव, २ पौरवी.
७ वसंत	१ वसंत, २ टक, ३ हिजेज. ४ हिंदोल.
८ वसंत मेरवी	१ वसंत मेरवी, २ मारवा
९ मालवगीड	१ मालवगीड, २ चैतीगीड, ३ पूर्वी, ४ पारसी, ५ देवगांधार, ६ गौडकिया, ७ कुर्जी, ८ बहुली, ९ रामकी, १० पावक, ११ आमावरी, १२ पचम, १३ बंगाल, १४ शुद्धललित, १५ गुर्जरी, १६ परम, १७ शुद्धगीड.
१० रीतिगीड	१ रीतिगीड.
११ आमीर	१ आमीर.
१२ इमीर	१ इमीर, २ विहगड, ३ केदार.
१३ शुद्धवराटी	१ शुद्धवराटी.
१४ शुद्धरामकी	१ देवकार, २ ललित, ३ जेतभी, ४ विवेणी, ५ देसी.
१५ भीराग	१ भी, २ मण्डवनी, ३ चणानी, ४ मेरवी, ५ धवला, ६ संवरी.
१६ कल्याण	१ कल्याण.
१७ कांबोदी	१ कांबोदी, २ देवकी.
१८ मझारी	१ मझारी, २ नटमझार, ३ पूर्वगीड, ४ भूपाली, ५ गीड, ६ शेखामरण, ७ नटनारायण, ८ नातायणी, ९ केदार, १० सालकनाट, ११ बेलबली, १२ मण्यमादि, १३ सानेरी, १४ सांताष्टी.
१९ सामंत	१ सामंत.
२० कर्णाट	१ कर्णाट, २ अष्टाणा, ३ नागध्वनि, ४ शुद्धबंगाल, ५ वर्णनाट, ६ तुल्यटोडी or ईसाख.
२१ देशाक्षी	१ देशाक्षी.
२२ शुद्धनाट	१ शुद्धनाट.
२३ सारग	१ सारग.

It is not necessary to discuss the definitions of these derivative Ragas here. Many of these Ragas will be found to have retained the major portions of their old forms to this day and thus the Raga Vibodha will be of great importance, from the historical point of view, to the Northern musician. Many of Somnath's Ragas are known to the Northern musician. The fifth question therefore may be safely answered in the affirmative.

CHATUR DANDI PRAKASIKA

We shall now take up for discussion the Chaturdandi Prakasika written by Pandit Vyankata Makhi. The work was written about the shaka year 1560, that is to say about thirty years after Somnath's Raga Vibodha. Vyankata Makhi is admittedly a Southern writer. Chatur dandi prakasika is still respected as a great authority in the southern presidency. Pandit Subrama Dixit of Etayyapuram, who died only five or six years ago was the last exponent of the Chaturdandi system. Vyankata Makhi claims to have finally decided the twelve note-system in the South. It is also his claim that he was the first to lay down the seventy-two mela-kartas or melody-types for Raga classification. You are aware that in the Swara Mela Kalamidhi and in the Raga Vibodha, the vikrita swaras recognised were more than five. It is true that Rama Amatya knew of the school which was ready to accept "mrdu" or "chyuta" ma and "mrdu" or "chyuta" sa as representing the antara ga and kakali ni, but the "mrdu" notes were not definitely discarded.

Vyankata Makhi definitely does it as follows :—

चतुश्चतुश्चतुश्चैव षडङ्गमध्यमपंचमाः ।
द्वे द्वे निपादगाधारौ त्रिस्त्री रिपमधैवतौ ॥

This is the usual rule which we have discussed more than once.

विकृतास्तु स्वराः पंचेत्यस्माभिरवधार्यते ।
रत्नाकरे तु निःशङ्को विकृतान् द्वादशस्वरात् ॥

अमरीर् केचन पुनः सप्ताहूर्विहस्रस्वरान् ।
 सर्वमेतन्ममालोच्य लक्ष्यमागतुमारतः ॥
 स्वराः पंचैव विहता इति निश्चितं मया ।
 तद्य पच स्वरान् सम्यग् विविच्य व्याहरामहे ॥
 साधारणं गांधारं गांधार्यांतराभिधः ।
 द्वौ तौ च मध्यमसंज्ञगभूतौ विहती स्वतः ॥
 वराहो मध्यमार्धकः पचमक्षेत्रममयः ।
 षड्जक्षेत्रसमुद्भूतौ कैशिकं काकली स्वतः ॥
 एवमेते स्वराः पच विहता इति निर्णयः ।
 आहार्य मुदविहताः स्वरा द्वादश वर्तिताः ॥

The five vikṛita swaras acknowledged by Vyankat Makhi therefore, are

(१) साधारण गांधार (२) अंतर गांधार (३) वराहो म (४) कैशिक नि (५) काकली नि
 Of these five notes, वराहो म is a new name and requires explanation
 The Pandit says —

चतस्रः ध्रुवयः प्रोक्ताः पंचमे गीतवेदिभिः ।
 आदादायां द्वितीयां च तृतीयांमपि तद्वृत्तिम् ।
 वराहो मध्यमः प्रोक्तः ध्रुविनयसमन्वितः ॥

Thus shows that the वराहो म of Vyankata Makhi was the षड्ज of Somnatha. It stood on the third sruti of the panchama. The tivratama 'ma' of the Raga Vibodha was one sruti lower. There were some other swara names in general use at Vyankat Makhi's time, and these may also be noted.

तथाहि शुद्धकवमशुद्धधैवतयोः पुनः ।
 विभिध्रुविक्रमावेन सर्वदाप्येकरूपता ॥

Translation — Shuddha 'ri' and shuddha 'dha' are never allowed to change the character of three sruti notes, and hence never assume other names. They always remain shuddha 'ri' and shuddha 'dha'.

यदा तु शुद्धगांधारे गांधारत्वं प्रपद्यते ।
 तदा द्विध्रुविको अक्षयो मुमारीगणके यथा ॥

Translation — When the shuddha gandhara retains its name "gandhara" unchanged it is always a "dwi-shruti" or shuddha gandhara, as in the case of the Mukhari ragam

यदा स एव जायेत ऋषभस्तु तदा पुनः ।
पंचश्रुतिरिति ज्ञेयः श्रीरागोऽत्र निदर्शनम् ॥

Translation.—When the gandhara is described in terms of the 'ri' as in Sri Raga, its two srutis are added to those of the preceding rishabha, with the result that the gandhara is then called पंचश्रुतिक्रम (3 plus 2 srutis rishabha).

एवं शुद्धनिषादस्य निषादत्वं यदा भवेत् ।
तदाहिद्विश्रुतित्वं स्यात् मुखार्यत्र निदर्शनम् ॥
स एव यदि जायेत धैवतस्तु तदा पुनः ।
पंचश्रुतिरिति ज्ञेयः संकराभरणे यथा ॥

The same reasoning applies to the shuddha nishada, when it remains shuddha nishada, it is of two srutis, and when it becomes a dhaivata, it is पंचश्रुति धैवत as in the Shankarabharana raga.

Observation.—This change of names is made to avoid the necessity of having two notes of the same denomination in the same mela or raga.

तथैव शुद्धगांधारानिषादौ द्वौ द्विरूपिणौ ।
साधारणाख्यगांधारः शुद्धर्मयुतो यदि ॥
तदा त्रिश्रुतिकोऽज्ञेयो भूपालोऽत्र निदर्शनम् ।
तस्यैव पंचश्रुतिना ऋषभेणान्वयो यदि ॥
तदैक श्रुतिता ज्ञेया श्रीरागोऽत्र निदर्शनम् ।
यदा ऋषभसंज्ञोऽयं तदा षट्श्रुतिको भवेत् ॥

Translation.—Then again the two notes shuddha 'ga' and shuddha 'ni' have some other characters assigned to them according to their distance or position in relation to the preceding notes. Thus take the case of the sadharana gandhara. This is the normal three sruti gandhara above shuddha rishabha. It is used in the Bhupala raga. If this sadharana gandhara is taken in connection with or used after a पंचश्रुति रि (the preceding note) then it is only an एकश्रुति ग as in the Shri Raga. But if this sadharana 'ga' is described in terms of rishabha, then the three srutis of 'ri' will be added to the three srutis of 'ga', and the resulting note will be called the षट्श्रुतिक्रम.

Observation.—This process is very clear and needs no further explanation. It is also applicable to shuddha ni and kaishika ni. These

last mentioned notes will optionally become पंचश्रुति ध and षट्श्रुति ध respectively.

Before proceeding to the "mela" chapter of the Chaturdandi Prakasika, I would like to draw your attention to the Pandit's description of the vadi samvadi swaras. He says :—

चतुर्विध स्वरोष्वेव वादी राजा प्रकीर्त्यते ।
 संशर्दालनुसारित्वादस्यामात्यो विधीयते ॥
 विवादी विपरीतत्वाद् धीरैरुक्ता रिपुपथः ।
 स्वरूपमर्दनं तेन प्रयोगेस्याद्विवादिना ॥
 स्वरूपमर्दनमात्रे गीते रक्तिर्नैलम्ब्यते ।
 घट्टपमर्दने शिरयाद्राज्ञां लोके प्रकाशयन् ॥
 मृषामात्यनुसारित्वादिनुवादी तु मूलवन् ॥

Observation.—The pandit obviously advises the use of the proper vivadis in their proper places. He says that thus use will enhance the attractiveness of the raga. In their absence गीतेरक्तिर्नैलम्ब्यते. This is something like the Western "dissonances" theory.

I do not think I ought to take you through the laborious process of the construction of the seventy two thatas of Vyankata Makhi. The process is well known in the Southern presidency. I have fully explained it in my own works, the Lakshya Sangeeta and the Hindusthani Sangeeta Paddhati. It may be noted that Vyankata Makhi does not use all the seventy two melas in classifying his janya ragas. He uses only nineteen of them. These are :—

आदिमः सर्वमेलानां मुखारीमेल उच्यते ।
 मेलः सामकरान्यास्यरागस्यातः परं मतः ॥
 ततो भूपालमेलोऽथ हेङ्गम्बीमेल ईरितः ।
 वसन्तमैत्रीमेलो गौळमेलस्ततः परम् ॥
 मैत्रीमेल आदीर्या मेलः श्रीरागमेलकः ।
 कामोजी मेलकोऽथ रयात् लकरामरणस्य च ॥
 सामतमेलो देशाक्षीमेलो नाट्यमेलकः ।
 मेलः तुदकरान्यास्यरागस्यातः परं मतः ॥
 मेलः पंतुकरान्यास्य तुदरामक्षिपापुतः ।
 मेलः सिहरारस्यास्यतुष्टरागस्यमेलकः ॥
 करारागमेलमेलाहर्त्येकोनविंशतिः ॥

१ मुखारी	सा	री शुद्ध	ग शुद्ध	म शुद्ध	प शुद्ध	ध शुद्ध	नि शुद्ध
२ सामवराळी	सा	,,	साधारण	,,	,,	,,	काकली
३ भूपाल	सा	,,	,,	,,	,,	,,	कैशिक
४ हेखुळी	सा	,,	अंतर	,,	,,	,,	शुद्ध
५ वसंतभैरवी	सा	,,	,,	,,	,,	,,	कैशिक
६ गौळ	सा	,,	,,	,,	,,	,,	काकली
७ भैरवी	सा	पंचश्रुति	साधारण	,,	,,	,,	कैशिक
८ आहीरी	सा	,,	,,	,,	,,	,,	कैशिक
९ श्री	सा	,,	,,	,,	,,	पंचश्रुति	कैशिक
१० काभोजी	सा	,,	अंतर	,,	,,	,,	कैशिक
११ शंकराभरण	सा	,,	,,	,,	,,	,,	काकली
१२ सामंत	सा	,,	,,	,,	,,	षट्श्रुति	,,
१३ हेशाशी	सा	षट्श्रुति	,,	,,	,,	पंचश्रुति	,,
१४ नाट	सा	,,	,,	,,	,,	षट्श्रुति	,,
१५ शुद्धवराळी	सा	शुद्ध	शुद्ध ग	वराळी	,,	शुद्ध	,,
१६ पंतुवराळी	सा	,,	साधारण	,,	,,	,,	,,
१७ शुद्धरामक्री	सा	,,	अंतर	,,	,,	,,	,,
१८ सिंहख	सा	पंचश्रुति	साधारण	,,	,,	पंचश्रुति	कैशिक
१९ कल्याणी	सा	,,	अंतर	,,	,,	,,	काकली

These are really interesting thatas. Nearly all the ten thatas of the Hindusthani Paddhati are to be found among them. सिंहख मेल is a new introduction by Vyankata Makhi Pandit. He says :—

मेलः सिंहखे रागे वेंकटाध्वरिकल्पिते

This is a "new" Raga introduced by the Pandit In the Hindusthani Sangeeta, tivra 'ma' does not come in suitably in a raga which takes the 'ga' and 'ni' komala. The Pandit had to invent one for the mela

Here there is an interesting problem before the scholars. If Vyankata Makhi has invented the Sinharava Raga, and put it under the 58th mela, how is it that the raga appears in the Sangeet Parijat of Ahobala Pandit? Ahobala puts it under his Bharavi thata, that is our modern Asavari Thata. Was Parijat written after the Chaturdandi? It is quite true this raga does not appear in any of the other works of the southern system. There was a very old raga called "Ghantarava" in existence. Even the Ratnakara mentions the "Ghantarava". It is quite possible that Ahobala took it from the Chaturdandi, and changed its thata in deference to the northern rule of avoiding tivra 'ma' in combination with the komala 'ga' and komala 'ni'. Again, Chaturdandi has ननुनासितस्वाधृत्योर्मदो नदिकृष्यः। अतिसेदलयोगेन्द्रस्वर्णैकविंशतिः। and Parijata has ध्रुवः, शुक्लमिषाः आनयत्वेन हेतुना। अहिर्बुध्नयवर्मदोक्तिः साम्यमहा. The idea is the same. Has Ahobala taken his idea from the Chaturdandi Prakasika? Ahobala made it a northern "Sinharava", we shall say by the कामदारवर्नितन्याय. It is also possible that Ahobala saw Somnath's Raga Vibodha. That would explain his calling tivratara 'ma', tivratama 'ma', also. But we need not go into a prolonged discussion of those points because that will be an unjustifiable digression.

Vyankata Makhi classified his ragas under his nineteen thatas as follows:—

जनक मेलनाम	जन्य रागः
१ सुषारी	१ सुषारी
२ सामवराडी	२ सामवराडी
३ भूषाळ	३ भूषाळ, २ मिथयहृज
४ वसंत मैत्री	४ वसंत मैत्री
५ गीळ	१ गीळ, २ गुंडफिया, ३ साठमनाड, ४ वादयामफिया, ५ कलिया, ६ पार्वी, ७ दुर्जंगी, ८ बहुली, ९ मलहरी, १० लावेरी, ११ कानादीन्, १२ पूर्वगीळ, १३ कर्णाटबंगान, १४ लोपाय-
६ आहरी	६ आहरी
७ मैत्री	७ मैत्री

जनक भेलनाम	जन्य रागः
८ श्रीराग	१ श्री, २ सालंगमैरवी, ३ घन्यासी, ४ सालवश्री, ५ देवगांधार, ६ आंधाली, ७ बेलवली, ८ कंनहगौळ.
९ हेजुली	१ हेजुली, २ रेवगुति
१० कामोजी	१ कामोजी, २ केदारगौळ, ३ नारायणगौड.
११ शंकराभरण	१ शंकराभरण, २ आरसी, ३ नागध्वनि, ४ साम, ५ शुद्धवसंत, ६ नारायण- देशाक्षी, ७ नारायणी.
१२ सामंत	१ सामंत
१३ देशाक्षी	१ देशाक्षी
१४ नाट	१ नाट
१५ शुद्धवराळी	१ शुद्धवराळी
१६ पंतुवराळी	१ पंतुवराळी
१७ शुद्धरामकिया	१ शुद्धरामकिया
१८ सिंहरव	१ सिंहरव
१९ कल्याणी	१ कल्याण

We shall not go into the special characteristics of these janya ragas because that is beyond the province of this paper.

SANGEETA SARAMRITA

This work was written by the Maharaja Tulajirao Bhonsle of Tanjore. You all know that Tanjore was formerly ruled by a Mahratta belonging to the family of the Maharaja Shivaji. The date, therefore, of the Sangeeta Saramrita will not be difficult to determine. It is said to be 1783 A.D. or thereabouts. Sangeeta Saramrita deals with the southern system of music, and its shuddha scale, is therefore,

the Mukhari scale, or the present Kanakangi. I have already stated the Hindusthani notes corresponding to the shuddha notes of the Karnatik system. In the Swaradhyaya, Tulajirao brings in many of the details described by Pandit Sharangdeva in his Sangeeta Ratnakara, without adding, which is unfortunate, any reason or explanation for the procedure. The sruti, swara, grana, murchhana, tana, alamkara, jati, chapters are all brought in more or less in the language of Sharangdeva. After that the author abruptly begins as follows:—

प्रत्येकस्य रागाणां भेदमादौ निरूप्यते ।
 रागाः सप्तकं निरूप्यते उदाहरणपूर्वकम् ॥
 भेदज्ञानं विना भेदजन्यं ज्ञानं न लभ्यते ।
 तस्मान्मेव प्रबोधायां तत्पररूपं प्रदर्शयते ॥

After that comes in the मेहनप्रक्रिया

पद्म आपस्तदुपरि तत्पारः कमलः स्वराः ।
 नमस्तस्यानकाशवि गोधारास्त्यानकाशे ॥
 आपस्तन न गोधारास्तुथेः नमो न हि ।
 नमस्तस्यानकाशवि गोधाराः द्वितीयकृतीष्वथ ॥
 प्रथमादिनय ह्यन भवेत्प्रमत्तं ह्यम् ।
 द्वितीयादि नय चान भवेद्वाचासंज्ञितम् ॥

It will be easily seen that the author here follows the progress laid down by Pandit Vyankata Makhi for obtaining his seventy-two names from the 12 swaras of the scale Tulajirao has also the same number of the scale. That the author knew about the Chaturdand is clearly seen from the following reference by him to that work:-

भन्तुर्देविप्रकाशिकाकारस्तु एवं लघ्वक्षयवहातातुर्विभक्त्यः शब्दार्थप्रकाशिते उदरान्तरम्, अत्रापि
 मध्यमप्रामाण्यमात्रकवचमस्य स्वोपादिस्वैव वदन्त्येव कश्चिद्विद्वत्पण्डितः प्रकृत्यन्ते ॥११६॥
 पञ्चममध्यमः ॥ इतिव्यवर्तुर्गुणितम् । मध्यमप्रकाशिकादिभिः शब्दार्थप्रकाशिते लघ्वक्षयव
 योगादर्शनात् बहुप्रामाण्ये एव मध्यमादिप्रकृतिलघ्वेन उदरान्तरम्, अत्रापि मध्यमप्रकाशिकादिभिः शब्दार्थप्रकाशिते लघ्वक्षयव
 पञ्चममध्यमेन सह उदरपञ्चमस्य मध्यमप्रकाशिकादिभिः शब्दार्थप्रकाशिते लघ्वक्षयव

This was also the argument of Vyasa in his expression *संक्षिप्तम्*. The author *Let's see* of the *Let's see* notes as follows:—

१. ब्रह्मचर्यं कुरु ब्रह्मचर्यं कुरु ॥
 २. ब्रह्मचर्यं कुरु ब्रह्मचर्यं कुरु ॥
 ३. ब्रह्मचर्यं कुरु ब्रह्मचर्यं कुरु ॥
 ४. ब्रह्मचर्यं कुरु ब्रह्मचर्यं कुरु ॥

कैशिक्याख्यनिषादश्च काकल्याख्यनिषादकः ।
पचैते विकृताः शुद्धैः स्वरैर्द्वादश कीर्तिताः ॥

Then come the optional names for some of the vikṛita notes.

विहाय स्वस्वसंज्ञा ये स्वरा अन्योन्यसंज्ञिकाः ।
तेषां नामांतराण्यत्र विहितानीह तद्यथा ॥
शुद्ध गांधार एवायं पंचश्रुत्युपमाह्वयः ।
साधारणाख्यगांधारः षट्श्रुत्युपमसंज्ञकः ॥
तथा शुद्धनिषादोऽपि स्यात्पंचश्रुतिधैवतः ।
स्यात् कैशिकनिषादोऽपि तथा षट्श्रुतिधैवतः ॥
लक्ष्यानुसारतस्त्वेतत् लौकिकं सुखबोधकम् ॥

On the possible number of melas, and on the selection of only the useful ones from among them, Tulajirao Maharaj says :—

मेला बहुविधास्तत्र द्विसप्ततिरिति स्फुटम् ।
निरूपयति तद्भेदान् चतुर्दशप्रकाशिका ॥
एकोनविंशतिस्तत्र तेनैव समुदाहृताः ।
इत्येवं विविधा मेलाः प्रस्तारपरिभाषया ॥
उच्चीतास्तेन तत्रेति स्यत्त्वा तानप्रसिद्धाप् ॥

The author of the Saramrita enumerates the following thatas as useful for the classification of his ragas.

तत्र श्रीरागमेलोऽथ शुद्धनाट्याश्च मेलकः ।
ततो मालवगौळस्य वेलावल्याश्च मेलकः ॥
वरालामेलरामकीरागमेलौ ततः परम् ।
शंकरा भरणाख्यस्य मेलः स्यात्तदनन्तरम् ॥
कावोजीरागमेलः स्याद्वैरव्या मेलकस्ततः ।
मुखारीमेलको वेगवाहिन्याश्चैव मेलकः ॥
सिंधुरामक्रियामेलो हेजिज्जीमेलकस्ततः ।
मेलः सामवराख्याख्यरागस्यातः परं मतः ॥
वसंतमैरवीमेलो मित्रपद्मस्य मेलकः ।
देशाक्षीरागमेलोऽथ छायानाटस्य मेलकः ॥
सारंगरागमेलश्च तोडीमेलस्ततः परम् ।
कल्याणीरागमेलश्चेत्येकविंशतिरिति ॥

मेलनामानि ।

१ भी	११ वेगवाहिनी
२ शुद्धनाट	१२ सिंधुरामजी
३ मातङ्गौळ	१३ हेजिछि
४ बैलावली	१४ सामवराळी
५ बराळी	१५ वसंतमैरवी
६ रामकी	१६ मिमपद्म
७ शकरामरण	१७ देशाडी
८ कांबोजी	१८ अयानट
९ मैरवी	१९ सारंग
१० सुखारी	२० तोडी
	२१ कवचाणी

Each mela is then duly defined thus —

मेलोद्गवेणु रामेणु भीरामोऽथ चिरंतर्गः ।
 मामसग इति प्रोक्तो रागागमितिर्क्रमन ॥
 भीरामः परिपूर्णः समस्तसंन्याससमुत्तः ।
 गेयः सायान्द्वयमेव स्यात् तानविवर्जितः ॥
 शुद्धः सप्तः समवाः पंचश्रुतीकृतमधैवती ।
 साधारणस्वरगांधारः कैश्चिद्व्याख्यविवादकः ॥

This is practically the Kaphi Thata of the Hindusthani musician. In the southern presidency Shri Raga is still sung with these notes. Our Kaphi Thata, as you have seen, corresponds with their, सरस्वति Thata. I shall not trouble you with the Sanskrit descriptions of the remaining Thatas. Tulajirao Bhonsle was a faithful follower of Vyankata Makh and the Shruti Swara chart given for the Chaturdandi prakasika will be a good guide to the Shrutis and Swaras of the Sangeet Samanrit. The अन्वय of Shri Thata will be of some interest to the Hindusthani musicians also

The twenty-one thatas of Tulajirao may be written with their Swaras thus:—

१ श्री..... सा री ग म प ध नि सा	११ वेगवाहिनी... सा री ग म प ध नि सा
२ शुद्धनाट..... सा ग ग म प नि नि सा	१२ सिंधुरामकी... सा री ग म प ध नि सा
३ मालवगौड..... सा री ग म प ध नि सा	१३ हेजिछी..... सा री ग म प ध ध सा
४ वेलावली..... सा री ग म प ध नि सा	१४ सामवराळी... सा री री म प ध नि सा
५ वराळी..... सा री री म प ध नि सा	१५ वसंतमैरवी... सा री ग म प ध नि सा
६ शुद्धरामकी... सा री ग म प ध नि सा	१६ भिन्नपड्ड... सा री ग म प ध नि सा
७ शंकरामरण... सा री ग म प ध नि सा	१७ देवाक्षी..... सा ग ग म प ध नि सा
८ कामोजी..... सा री ग म प ध नि सा	१८ सारंग..... सा री म म प नि नि सा
९ मैरवी..... सा री ग म प ध नि सा	१९ लायानट..... सा ग ग म प ध नि सा
१० मुखारी..... सा री री म प ध ध सा	२० तोडी..... सा री ग म प ध नि सा
	२१ कल्याणी..... सा री ग म प ध नि सा

Janak melas, and the janya ragas.

१ श्रीमेल	१ कंनटगौळ, २ देवगांधार, ३ सालंगमैरवी, ४ शुद्धदेसी, ५ माधवमनोहरी, ६ मध्यमग्राम, ७ सिंधवी, ८ हुसेनी, ९ श्रीरंजनी, १० मालवश्री, ११ देवमनोहरी, १२ जयंतसेन, १३ मणिरंग, १४ मध्यमादि, १५ शुद्धधन्यासी
२ शुद्धनाट	१ शुद्धनाट, २ उदयरविचंद्रिका (described as टक सापा)
३ मालवगौड	१ मालवगौड, २ सालंगनाट, ३ आर्द्रदेश, ४ लायागौळ, ५ टक, ६ शुर्जरी, ७ गुंढकी, ८ फलमंजरी, ९ नादरामकी, १० सौराष्ट्री, ११ मंगलकैशिक, १२ मेचवौळी, १३ मागधी, १४ गौरीमनोहरी, १५ मारुव, १६ गौळीपंतु, १७ सावेरी, १८ पूर्वी, १९ विमास, २० गौळ, २१ ललित, २२ पाढी, २३ कंनडबंगाल, २४ मल्लहरी, २५ पूर्णपंचम, २६ बहुली, २७ शुद्धसावेरी, २८ मेघरंजनी, २९ रेवशुति, ३० मालवी.
४ वेलावली	१ वेलावली.
५ वराळी	१ वराळी (साधारण of भिन्नपंचम)

६ शुद्धरागकी	१ शुद्धरागकी (a किरागाराग), २ दीपक
७ शुद्धराग	॥ अकगमराग, २ आरमी, ३ शुद्धबसंत, ४ सरस्वतीमनोहरी, ५ पूर्वगौळ, ६ नारायणी, ७ नारायणदेशाक्षी, ८ सामंत, ९ कुंजी, १० पूर्णचंद्रिका, ११ सुगंधिषु, १२ ब्रह्मांड (टी), १३ गौडमहार, १४ केदार, १५ विलहरी
८ कांकोजी	१ कांकोजी, २ नारायणगौड, ३ केदारगौड, ४ बडईस, ५ नागध्वनि, ६ ज्ञानसंगिणी, ७ ईश्वरमनोहरी, ८ यदुकुलकांकोजी, ९ नाटकुंजी, १० कंनक, ११ नटनारायण, १२ आंधाली, १३ साम, १४ मोहन, १५ देवकी, १६ मोहनकल्याण
९ मेरवी	१ मेरवी, २ अहरी, ३ चंदाव, ४ इंदुपटारव, ५ रीतिगौड, ६ आनंद-मेरवी, ७ हिंदोलबसंत, ८ आमरी, ९ चव्यामी, १० नागगांधारी, ११ हिंदोल.
१० मुखारी	१ मुखारी (This is the same as the Raga <i>हृदसाधारित</i> of <i>sharangdeva</i> , says <i>Tulajirao</i> . He does not give reasons though)

Tulajirao explains the statement thus —

सर्वरागमेलेषु मुखारीमेल आदिकः ।

शुद्धैः सप्तस्वैर्गुणैः मुखारीमेल ईरितः ॥

चतुर्ध्वनिषु भवेत्तु वत्सरागमयचमाः ।

द्वेद्वेनिषादगांधारी तिसीरिषमयैवशुः ॥

शुद्धा इत्युत्तरसंख्याकभुक्तिकाः सादृश्याः ॥

अस्मिन्मेले मुखारीयगायनः ॥

लोकप्रतिद्वानामां शास्त्रविद्वद्भिः ॥

शुद्धसाधारित इति ॥

रागेकप्रमताचार्यैः ॥

विशिष्टाचार्यैः ॥

This is certainly no sufficient reason for the statement. What were the seven shuddha ragas of Tulajirao? Important question Tulajirao never answers. It is granted that his own *Shuddha Ragas* were the seven *Sharangdeva*, also

११ वेगवाहिनी	१ वेगवाहिनी
१२ सिंधुरामक्री	१ सिंधुरामक्री, २ पंतुवराळी
१३ हेजुली	१ हिजेजी
१४ सामवराळी	१ सामवराळी, २ गांधारपंचम, ३ मिचपंचम
१५ वसंतभैरवी	१ वसंतभैरवी, (मध्यमग्रामजन्यत्वसंदेहजनयति), २ ललितपंचम
१६ मिचपड्ज	१ मिचपड्ज, २ भूपाल
१७ देशाक्षी	१ देशाक्षी
१८ छायानट	१ छायानट
१९ सारंग	१ सारंग
२० तोडी	१ तोडी
२१ कल्याणी	१ कल्याण

(About 106 Ragas in all.)

In my opinion a happy fusion between the two great music systems of the country is most desirable. When it comes on the Hindusthani system will be considerably enriched. Hundreds of beautiful Ragas can be reintroduced here into our system by our leading living experts. The Southern System again will have an opportunity of adopting our northern graces in the Vadi, Samvadi, rules and thereby of making its music much more interesting. All this however, will be the province of Bhavi Sangeet and thus beyond the province of this paper.

raga lakshanam

I shall now make a few remarks on the last of the works referred to in this paper. I am sorry I was unable to obtain a complete copy of this work. I could get only the Raga Adhyaya. Raga Lakshana appears to me to be a very important work. Its importance lies in the fact that it is the real authority for the current Southern system. The "mela" names and the swara names are exactly those found new in the southern presidency. We went through Swara Mela Kalanidhi,

Raga Vibodha, Chaturvedi, Prakasa and Saranata but we never found the 'चतुःश्रुति' 'रा' and 'दा' taking the place of the shuddha gandhara. We always had 'द्वयश्रुति' and 'चतुःश्रुति' coinciding with shuddha ga and shuddha ra. Then again we never came across the name 'प्रतिरा' for the tara 'ra'. The shuddha tara was again the "mukhari" and not the present "Kumhari".

In the treatise under notice, you have the latest melas and swara names of the current Karmak system. The janya raga rules again are exactly those referred to in the Telugu book Gayika Lochan by Pandit Singaracharya. As the Swaradhyaya is missing I am not in a position to tell you who the author is or when or where the book was written. It is now a printed book and the missing information may be obtained in course of time. The title of the book is taken by me from the heading in the incomplete manuscript had when I copied it. It may turn out when the original manuscript is obtained that the title is something different. I give briefly the contents for what they are worth.

मेलविभागविवेक मेलानी तु द्विवर्गः ।
 शुद्धमध्यमवर्षकं प्रतिमध्यममर्षुनम् ॥
 शुद्धप्रवृत्तिवृत्तिविवेकविभक्तिः स्मृतः ।
 मध्यममे सुतिवर्षविवेकविभागवर्षः स्मृतः ॥

अथ शुद्धमध्यममेलकर्तृनाम्ना नामान्युच्यन्ते ।

जनकांगी च रत्नांगी गानमूर्तिर्वनस्पतिः ॥
 नाम्नामानवनी तानकपी तनावनी तथा ।
 इन्दुमयीरिविख्याता धेनुका परिकीर्तिता ।
 नाट्यत्रियमिश्रुतं कोकिलप्रियनामकम् ॥
 शोभा रूपवती चैव गायत्रिप्रियनामकम् ।
 बहुलामरण चैव मायामालवर्गाजिका ॥
 चक्रवाकमिश्रितोल, पूर्वाकाठमिर्तारितम् ।
 हाटकाविविख्याता हाकरम्बनिनामकः ॥
 नटमर्गवनामानी वीरवाणी ततः परम् ।
 सारहायिषा चैव तथा यौगण्डीहरी ॥
 बहवप्रियमेलाकृतं सागरजनिनामकं ।
 चारुकेयी प्रमिता च मरमायी
 रमिकायैत्रि चैव चारुचक्रामरणं
 नन्दार्द्रदिनो यौगण्डीया रव

११ वेगवाहिनी	१ वेगवाहिनी
१२ सिंधुरामक्री	१ सिंधुरामक्री, २ पंतुवराळी
१३ हेजुळी	१ हिजेजी
१४ सामवराळी	१ सामवराळी, २ गांधारपंचम, ३ मिन्नपंचम
१५ वसंतभैरवी	१ वसंतभैरवी, (मध्यमग्रामजन्यत्वसंदेहजनयति), २ ललितपंचम
१६ मिन्नपड्ज	१ मिन्नपड्ज, २ भूपाल
१७ देशाक्षी	१ देशाक्षी
१८ छायानट	१ छायानट
१९ सारंग	१ सारंग
२० तोडी	१ तोडी
२१ कल्याणी	१ कल्याण

(About 106 Ragas in all.)

In my opinion a happy fusion between the two great music systems of the country is most desirable. When it comes on the Hindusthani system will be considerably enriched. Hundreds of beautiful Ragas can be reintroduced here into our system by our leading living experts. The Southern System again will have an opportunity of adopting our northern graces in the Vadi, Samvadi, rules and thereby of making its music much more interesting. All this however, will be the province of Bhavi Sangeet and thus beyond the province of this paper.

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Raga Vibodha, Chaturdandi, Prasthana and Samamita etc. we never found the श्रुःश्रुति 'ra' and 'dha' taking the place of the shuddha gandhara. We always had श्रुःश्रुति and श्रुःश्रुति & containing the shuddha ga and shuddha ra. Then again we never come across the name श्रुति for the tara tara. The shuddha tara was never the "mukhari" and not the present "Taraṅgi".

In the treatise under notice, you have the latest name and system names of the current Karanik system. The names were taken from exactly those referred to in the Telugu book Gopala Tattva by Vemuri Singaracharya. As the Swamishyaya is missing, I am not in a position to tell you who the author is or when or where the book was written. It is now a printed book and the missing information may be obtained in course of time. The title of the book is taken by me from the existing incomplete manuscript and when I copied it, I may have not had the original manuscript is obtained for the title is something different. I give briefly the contents in which they are written.

महोदयगिरिनेर जेना दू हेतुनेः
 हुडनमगदक श्रुतिगमपद १
 हुडनमगदक श्रुतिगमपद २
 हुडनमगदक श्रुतिगमपद ३

४ हुडनमगदक श्रुतिगमपद ४

५ हुडनमगदक श्रुतिगमपद ५
 ६ हुडनमगदक श्रुतिगमपद ६
 ७ हुडनमगदक श्रुतिगमपद ७
 ८ हुडनमगदक श्रुतिगमपद ८
 ९ हुडनमगदक श्रुतिगमपद ९
 १० हुडनमगदक श्रुतिगमपद १०
 ११ हुडनमगदक श्रुतिगमपद ११
 १२ हुडनमगदक श्रुतिगमपद १२
 १३ हुडनमगदक श्रुतिगमपद १३
 १४ हुडनमगदक श्रुतिगमपद १४
 १५ हुडनमगदक श्रुतिगमपद १५
 १६ हुडनमगदक श्रुतिगमपद १६
 १७ हुडनमगदक श्रुतिगमपद १७
 १८ हुडनमगदक श्रुतिगमपद १८
 १९ हुडनमगदक श्रुतिगमपद १९
 २० हुडनमगदक श्रुतिगमपद २०

गणेशयूपिणी नाम वागधीश्वरिनामकं ।
शूलिनीनामविख्याता चलनाटा प्रकीर्तिता ॥

प्रतिमध्यममेलकर्तृरागाणां नामानि ।

सालगी राग इत्युक्तो जलार्णवमतःपरम् ।
नाम्ना झालवराळीच नवनीतमिति स्फुटम् ॥
गवावोधाति विख्याता भवप्रियमितीरितम् ।
पावनी लोकविख्याता रघुप्रियमितीरितम् ॥
शुभापंतुवराळीच षड्विधामार्गिणी तथा ।
सुवर्णांगीतिविख्याता प्रोक्ता दीव्यमणीतिच ॥
धवलावरिविख्याता नामनारायणी तथा ।
कामवर्धिनिनामाच रामप्रियमितीरितम् ॥
गमनश्रम इत्युक्तः स्मृता विश्वंभरेतिच ।
श्यामलांगीतिविख्याता षण्णुखप्रियनामकम् ॥
सिंहेंद्रमध्यमाचैव हेमवती सुनामकं ।
धर्मवतीतिविख्याता स्मृता नीतिमतीतिच ॥
कान्तामणिस्तथाप्रोक्ता ऋषभप्रियनामकम् ।
लतांगीति प्रसिद्धा च वाचस्पतिरितीरिताः ॥
विख्याता मेचकल्याणी चित्रावरिस्ततःपरम् ।
सुचरित्रमितिप्रोक्तं तथा ज्योतिःस्वरूपिणी ॥
धातुवर्धिनिविख्याता नासिकाभूषणी तथा ।
कोसलो राग इत्युक्तो रसिकप्रियनामकम् ॥

These are the present 72 Thatas of the Southern Music System this day. The names of the 12 notes which form the foundation of the system are as under :—

सा	री	ग शुद्ध	साधारण ग	अंतर	शुद्ध	प्रति	शुद्ध	शुद्ध	शुद्ध नि	कैशिक नि	काकली
शुद्ध	शुद्ध	चतुःश्रुतिरी	षडश्रुतिरी	ग	म	म	प	ध	चतुःश्रुतिध	षडश्रुतिध	नि

I do not propose to give the Swaras of the 72 Thatas here on this occasion. There are more than five hundred Janyaragas given under these 72 Thatas with their Arohas and Avarohas complete, but I do not think it necessary to go into the details.

I propose now to complete this long discourse, I have in the foregoing portion touched in a succinct way the sruti, swara, raga,

and thata portions of about 16 treatises. My object in this has been, as I said, to show that by a study of the ancient works, we will be in a position to effect certain very beneficial results so far as our present music is concerned. I have, therefore, explained which our old books are, which of them are available, and where, and what the system shown in them is, I now propose to show how the study of these is of practical use to us.

As the subject matter of our present music is of the same nature as that of the ancient music, the division and classification of that subject matter as adopted in those texts will come in handy for systematising our present music. These can be used as a basis for improvement according to our present conditions.

I think that in our present text books, we can safely leave out of consideration that portion of our ancient text books which deals with the physiological theories of the production of sound. But we will take the division of the gamut into 22 srutis adopted by these works for our gamut, and fix on it our shuddha scale, same as has been done in those works. It is well-known that our shuddha scale is the Bilawal scale, while that of some of the works is the Kafi scale, and that of others is the Mukhar scale. If the sruti intervals of the ancient works are such as do not satisfy the modern principles of acoustics, these can be determined by modern science, and standardised by consensus of opinion. If this is done, then the basis of the structure of our music will be standardised and uniform. The process of describing swaras in terms of srutis, vikṛita swaras with reference to the shuddha swaras, thatas or genus modes in terms of the swaras and ragas in terms of the thatas etc. which has been used in the ancient works can be adopted for our present system. But the indefinite method of describing the shuddha swaras used in the texts will have to be improved on by describing the swaras in terms of the length of the speaking wire, of vibrational values, when there is a consensus of opinion as to these. When the swaras have been standardised, (are determined,) we can also fix on the number of parent modes under which the existing ragas can be classified and grouped. This is to be done by deciding mathematically the number of possible permutations and combinations as has been done by Vyankata Mokṣi, in his *Chaturdandī Prakasikā*, and then taking from them such as will best fit the present derivative modes. When the number of the parent modes has been determined by consensus of opinion, we have to proceed to the classification of the existing ragas under the parent modes, and in this we will be following our ancient treatises. Only, we shall fix the classification having regard to the similarity of swaras, vādī note, peculiarity of development and other features between the parent mode and the derivative raga and

not arbitrarily, or blindly following the ancient works. Still, the rule followed in the ancient texts that a derivative Raga must have the same scale as the parent mode, the only difference being in the swaras deleted or added still remains. In the ancient texts, we see an absence of information which is necessary to enable one to make an accurate differential diagnosis of derivative ragas coming under the same parent mode. There the differentiation is made in arohana, vadi, time, graha, amsha and nyasa. This differentiation can be amplified by mentioning also the "pakads", or catches, similarity or dissimilarity of any particular raga, as compared with another derivative of the same thata, whether it is a "purvanga" or "uttaranga" raga, (that is whether its development is in the upper or the lower tetrachord), what vivadi note can be used in it and when, how, how it compares with a similar raga mentioned in the ancient texts, or in vogue in the Karnatik system, and so forth. We can also in our text books have illustrations of the "alapa" development of a raga, set to tala and notation according to modern methods of notation. As it is impossible to reduce to notation all the graces, meend slurs, gamaks, and other alamkaras, the notation may be supplemented by vocal records of practical experts, which records should be indexed and registered, and thrown open to the student studying with the help of the notations. If research is able to determine the meaning of pictorial descriptions of the ragas, (and I must mention that there are to be found works on the chromatics of sound, such as Field on Chromatics of Sound), then these pictorial representations can be incorporated in our text-books to be, as expounding the aesthetic psychic possibilities of the raga. The ancient works do not throw light on the principles of the compositions of tunes or songs, so that even one has to fall back on a limited stock of "ustadi" songs, the correctness of which no one can be sure of as they have never been noted and have only been handed down from generation to generation. When these principles are determined, and standardised, incorrect versions of "ustadi" compositions can be corrected, and also new compositions made. By a study of the works relating to the southern system, we can compose songs for the northern musicians in the ragas which are suited there but have not found a place in the northern system, and thus induce, at some date, how distant soever, a fusion of the two systems of music.

In short, having by the study of the texts ascertained the groundwork of the system, constructive activity can improve on that groundwork and adapt it to the prevailing conditions of education. It is therefore, of great use to study those texts and to obtain from them thorough insight into our music as it was.

